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NEWS 5 NOV 26 Two new SET commands increase convenience of STN
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NEWS 7 DEC 12 GBFULL now offers single source for full-text
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NEWS 8 DEC 17 Fifty-one pharmaceutical ingredients added to PS
NEWS 9 JAN 06 The retention policy for unread STNmail messages
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NEWS 10 JAN 07 WPIDS, WPINDEX, and WPIX enhanced Japanese Patent
Classification Data

NEWS EXPRESS JUNE 27 08 CURRENT WINDOWS VERSION IS V8.3,
AND CURRENT DISCOVER FILE IS DATED 23 JUNE 2008.

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NEWS LOGIN Welcome Banner and News Items
NEWS IPC8 For general information regarding STN implementation of IPC 8

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* * * * * STN Columbus * * * * *

FILE 'HOME' ENTERED AT 20:04:57 ON 25 JAN 2009

=> file reg		
COST IN U.S. DOLLARS	SINCE FILE	TOTAL
	ENTRY	SESSION
FULL ESTIMATED COST	0.22	0.22

10564902.trn

FILE 'REGISTRY' ENTERED AT 20:05:24 ON 25 JAN 2009
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STRUCTURE FILE UPDATES: 23 JAN 2009 HIGHEST RN 1095705-07-9
DICTIONARY FILE UPDATES: 23 JAN 2009 HIGHEST RN 1095705-07-9

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TSCA INFORMATION NOW CURRENT THROUGH July 5, 2008.

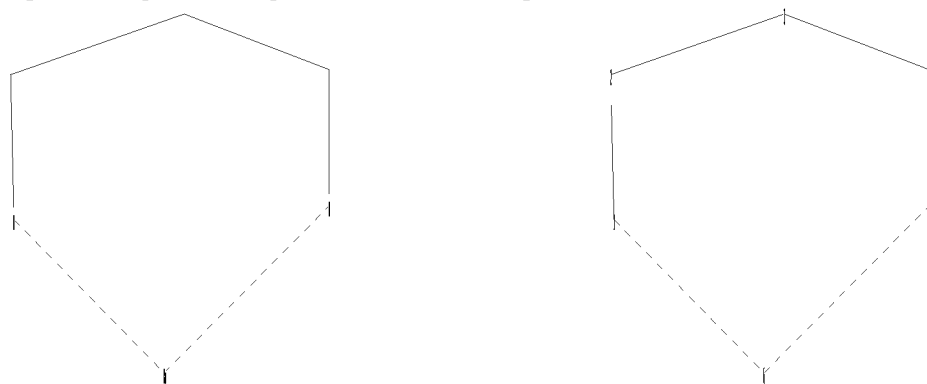
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=>

Uploading C:\Program Files\Stnexp\Queries\10564902\Struc 1.str



ring nodes :
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ring bonds :
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exact/norm bonds :
1-2 1-6 2-3 3-4 4-5 5-6

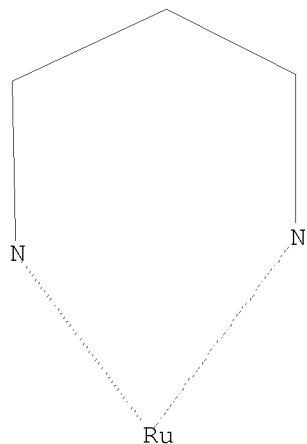
Match level :
1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom

L1 STRUCTURE UPLOADED

=> d

L1 HAS NO ANSWERS

L1 STR



Structure attributes must be viewed using STN Express query preparation.

=> l1

SAMPLE SEARCH INITIATED 20:05:38 FILE 'REGISTRY'

SAMPLE SCREEN SEARCH COMPLETED - 1709 TO ITERATE

100.0% PROCESSED 1709 ITERATIONS

50 ANSWERS

INCOMPLETE SEARCH (SYSTEM LIMIT EXCEEDED)

SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE **COMPLETE**

BATCH **COMPLETE**

PROJECTED ITERATIONS: 31700 TO 36660

PROJECTED ANSWERS: 2583 TO 4137

L2 50 SEA SSS SAM L1

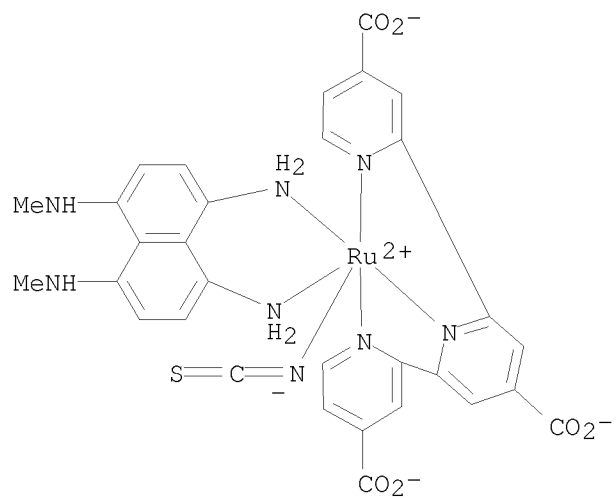
=> d scan

L2 50 ANSWERS REGISTRY COPYRIGHT 2009 ACS on STN

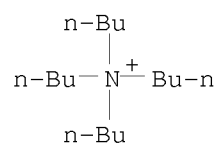
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κN4,κN5)[[2,2':6',2''-terpyridine]-4,4',4''-tricarboxylato(3-)-
κN1,κN1',κN1''] (thiocyanato-κN)ruthenate(2-)
(1:1:1) (9CI)

MF C31 H24 N8 O6 Ru S . C16 H36 N . H

CM 1



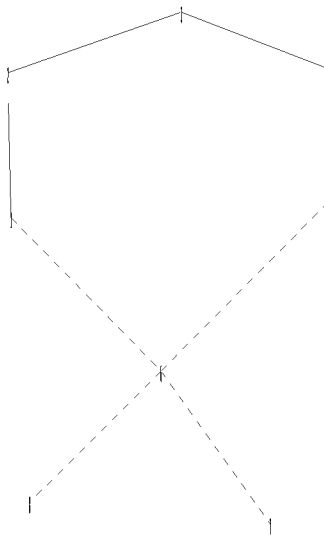
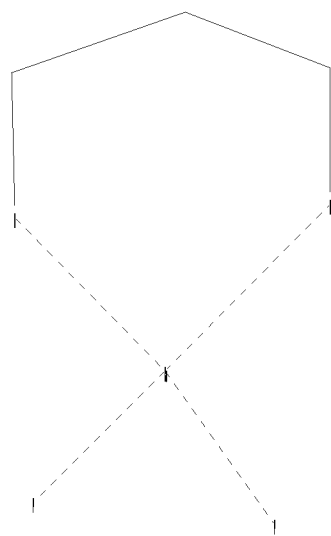
CM 2



HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):0

=>

Uploading C:\Program Files\Stnexp\Queries\10564902\Struc 2.str



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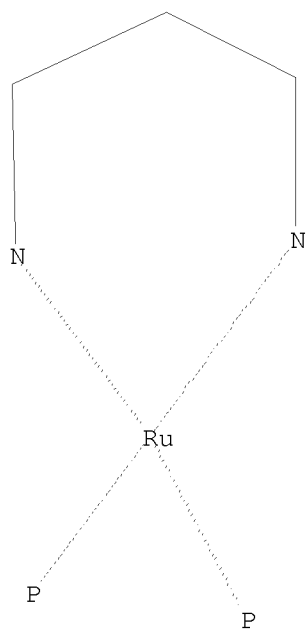
10564902.trn

```
7 8
ring nodes :
1 2 3 4 5 6
chain bonds :
6-7 6-8
ring bonds :
1-2 1-6 2-3 3-4 4-5 5-6
exact/norm bonds :
1-2 1-6 2-3 3-4 4-5 5-6 6-7 6-8
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Match level :
1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:CLASS 8:CLASS
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L3 STRUCTURE UPLOADED

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=> d
L3 HAS NO ANSWERS
L3 STR
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Structure attributes must be viewed using STN Express query preparation.

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SAMPLE SCREEN SEARCH COMPLETED - 170 TO ITERATE
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SEARCH TIME: 00.00.01
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10564902.trn

FULL FILE PROJECTIONS: ONLINE **COMPLETE**
BATCH **COMPLETE**
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PROJECTED ANSWERS: 6 TO 266

L4 6 SEA SSS SAM L3

=> l3 full
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100.0% PROCESSED 3598 ITERATIONS 147 ANSWERS
SEARCH TIME: 00.00.01

L5 147 SEA SSS FUL L3

=> file caplus
COST IN U.S. DOLLARS SINCE FILE TOTAL
ENTRY SESSION
FULL ESTIMATED COST 186.84 187.06

FILE 'CAPLUS' ENTERED AT 20:07:25 ON 25 JAN 2009
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FILE COVERS 1907 - 25 Jan 2009 VOL 150 ISS 5
FILE LAST UPDATED: 23 Jan 2009 (20090123/ED)

Caplus now includes complete International Patent Classification (IPC) reclassification data for the third quarter of 2008.

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This file contains CAS Registry Numbers for easy and accurate substance identification.

=> l5
L6 72 L5

=> d ibib abs hitstr 1-72

L6 ANSWER 1 OF 72 CAPLUS COPYRIGHT 2009 ACS on STN

10564902.trn

ACCESSION NUMBER: 2008:1131298 CAPLUS
 DOCUMENT NUMBER: 149:438766
 TITLE: Primary and Secondary Phosphine Complexes of Iron Porphyrins and Ruthenium Phthalocyanine: Synthesis, Structure, and P-H Bond Functionalization
 AUTHOR(S): Huang, Jie-Sheng; Yu, Guang-Ao; Xie, Jin; Wong, Kwok-Ming; Zhu, Nianying; Che, Chi-Ming
 CORPORATE SOURCE: Department of Chemistry and Open Laboratory of Chemical Biology of the Institute of Molecular Technology for Drug Discovery and Synthesis, The University of Hong Kong, Hong Kong, Peop. Rep. China
 SOURCE: Inorganic Chemistry (Washington, DC, United States) (2008), 47(20), 9166-9181
 CODEN: INOCAJ; ISSN: 0020-1669
 PUBLISHER: American Chemical Society
 DOCUMENT TYPE: Journal
 LANGUAGE: English

AB Reduction of [FeIII(Por)Cl] (Por = porphyrinato dianion) with Na₂S₂O₄ followed by reaction with excess PH₂Ph, PH₂Ad, or PHPh₂ afforded [FeII(F20-TPP)(PH₂Ph)₂] (1a), [FeII(F20-TPP)(PH₂Ad)₂] (1b), [FeII(F20-TPP)(PHPh₂)₂] (2a), and [FeII(2,6-Cl₂TPP)(PHPh₂)₂] (2b). Reaction of [RuII(Pc)(DMSO)₂] (Pc = phthalocyaninato dianion) with PH₂Ph or PHPh₂ gave [RuII(Pc)(PH₂Ph)₂] (3a) and [RuII(Pc)(PHPh₂)₂] (4). [RuII(Pc)(PH₂Ad)₂] (3b) and [RuII(Pc)(PH₂But)₂] (3c) were isolated by treating a mixture of [RuII(Pc)(DMSO)₂] and O=P(Cl)₂Ad or P(Cl)₂But with LiAlH₄. Hydrophosphination of CH₂=CHR (R = CO₂Et, CN) with [RuII(F20-TPP)(PH₂Ph)₂] or [RuII(F20-TPP)(PHPh₂)₂] in the presence of tBuOK gave [RuII(F20-TPP)(P(CH₂CH₂R)₂Ph)₂] (R = CO₂Et, 5a; CN, 5b) and [RuII(F20-TPP)(P(CH₂CH₂R)Ph)₂] (R = CO₂Et, 6a; CN, 6b). Similar reaction of 3a with CH₂=CHCN or MeI gave [RuII(Pc)(P(CH₂CH₂CN)₂Ph)₂] (7) or [RuII(Pc)(PMe₂Ph)₂] (8). The reactions of 4 with CH₂=CHR (R = CO₂Et, CN, C(O)Me, P(O)(OEt)₂, S(O)₂Ph), CH₂=C(Me)CO₂Me, CH(CO₂Me)=CHCO₂Me, MeI, BnCl, and RBr (R = Bu, CH₂=CHCH₂, MeC equivalent CCH₂, HC equivalent CCH₂) in

the

presence of tBuOK afforded [RuII(Pc)(P(CH₂CH₂R)Ph)₂] (R = CO₂Et, 9a; CN, 9b; C(O)Me, 9c; P(O)(OEt)₂, 9d; S(O)₂Ph, 9e), [RuII(Pc)(P(CH₂CH(Me)CO₂Me)Ph)₂] (9f), [RuII(Pc)(P(CH(CO₂Me)CH₂CO₂Me)Ph)₂] (9g), and [RuII(Pc)(PRPh)₂] (R = Me, 10a; Bu, 10b; Bn, 10c; CH₂CH=CH₂, 10d; CH₂C equivalent CMe, 10e; CH=C=CH₂, 10f). X-ray crystal structure detns. revealed Fe-P distances of 2.2597(9) (1a) and 2.309(2) Å (2b·2CH₂Cl₂) and Ru-P distances of 2.3707(13) (3b), 2.373(2) (3c), 2.3478(11) (4), and 2.3754(10) Å (5b·2CH₂Cl₂). Both the crystal structures of 3b and 4 feature intermol. C-H...π interactions, which link the mols. into 3-dimensional and 2-dimensional networks, resp.

IT 1067670-08-9P

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (preparation and crystal and mol. structure)

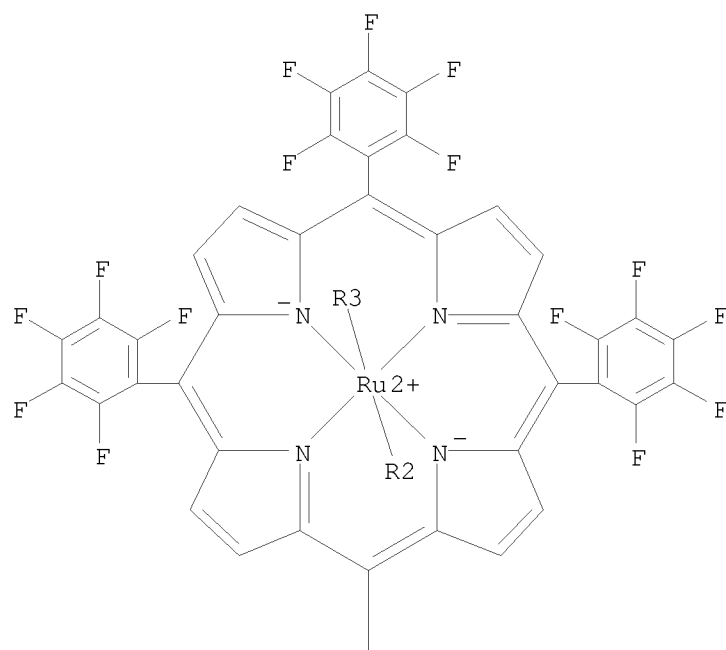
RN 1067670-08-9 CAPLUS

CN Ruthenium, bis[3,3'-(phenylphosphinidene-κP)bis[propanenitrile]][5,10,15,20-tetrakis(2,3,4,5,6-pentafluorophenyl)-21H,23H-porphinato(2-)-κN21,κN22,κN23,κN24]-, (OC-6-12)-, compd. with dichloromethane (1:2) (CA INDEX NAME)

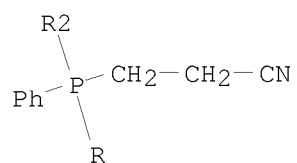
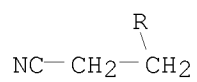
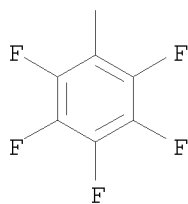
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CRN 1067669-83-3
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 CCI CCS

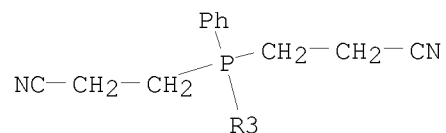
PAGE 1-A



PAGE 2-A



PAGE 3-A



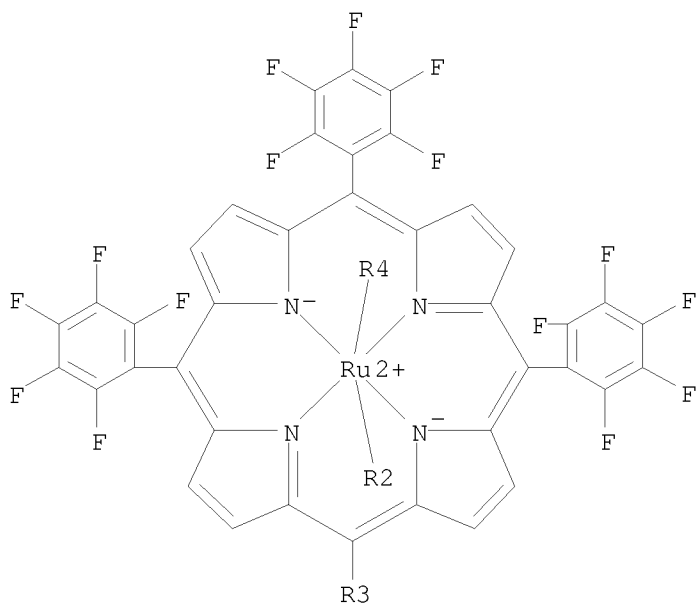
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CRN 75-09-2
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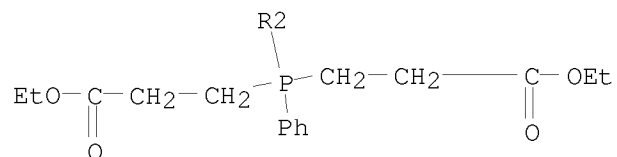
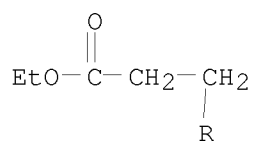
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IT 1067669-80-0P 1067669-83-3P 1067669-84-4P
1067669-85-5P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
RN 1067669-80-0 CAPLUS
CN Ruthenium, bis[1,1'-diethyl 3,3'-(phenylphosphinidene-
κP)bis[propanoate]][5,10,15,20-tetrakis(2,3,4,5,6-pentafluorophenyl)-
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(OC-6-12)- (CA INDEX NAME)

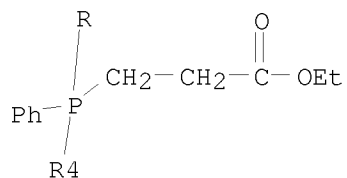
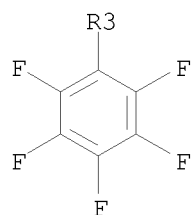
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PAGE 2-A

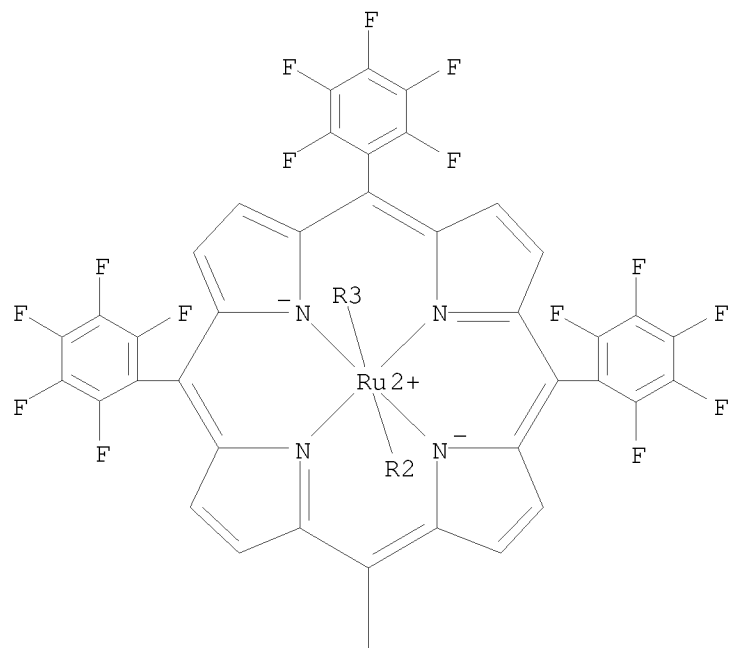


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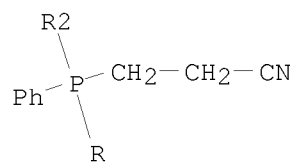
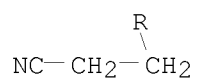
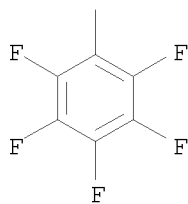


RN 1067669-83-3 CAPLUS
 CN Ruthenium, bis[3,3'-(phenylphosphinidene-
 κP)bis[propanenitrile]][5,10,15,20-tetrakis(2,3,4,5,6-
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 κN21,κN22,κN23,κN24]-, (OC-6-12)- (CA INDEX NAME)

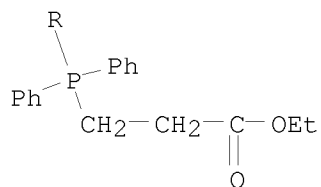
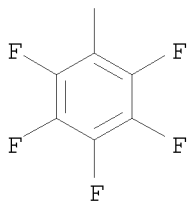
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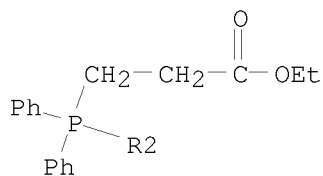
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PAGE 2-A

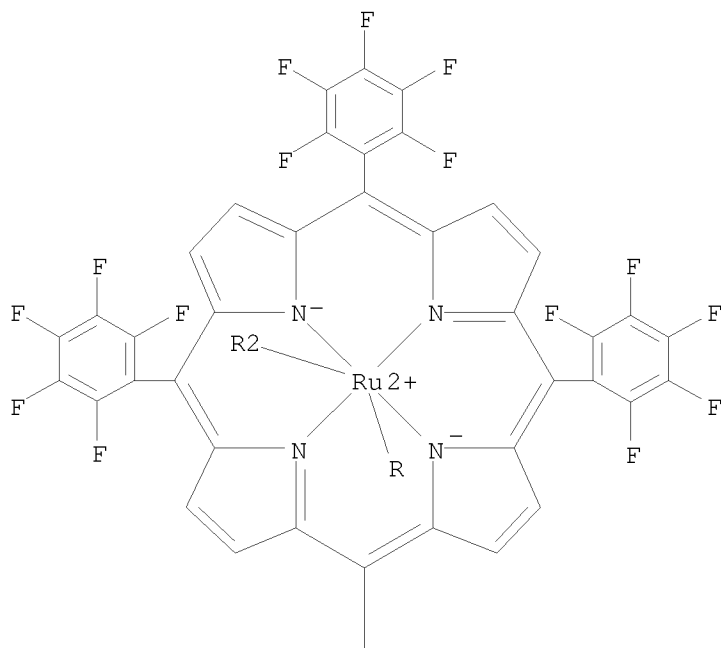


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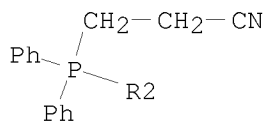
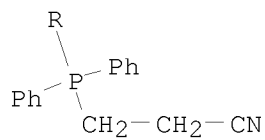
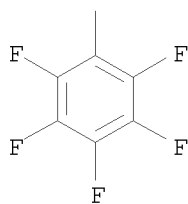


RN 1067669-85-5 CAPLUS
 CN Ruthenium, bis[3-(diphenylphosphino-κP)propanenitrile][5,10,15,20-tetrakis(2,3,4,5,6-pentafluorophenyl)-21H,23H-porphinato(2-)-κN21,κN22,κN23,κN24]-, (OC-6-12)- (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



REFERENCE COUNT:

69

THERE ARE 69 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 2 OF 72 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2008:652626 CAPLUS

DOCUMENT NUMBER: 149:104851

TITLE: Isolation, X-ray Crystal Structure, and Reactivity of
a New C-H Carbene Complex of
(5,10,15,20-Tetraphenylporphyrinato)ruthenium(II)AUTHOR(S): Le Maux, Paul; Roisnel, Thierry; Nicolas, Irene;
Simonneaux, GerardCORPORATE SOURCE: Ingenierie Chimique et Molecules pour le Vivant and
Centre de Diffractometrie, UMR 6226, Universite de
Rennes 1, Rennes, 35042, Fr.SOURCE: Organometallics (2008), 27(13), 3037-3042
CODEN: ORGND7; ISSN: 0276-7333

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 149:104851

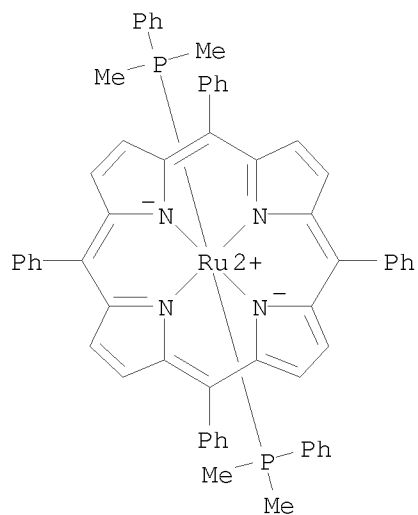
AB Treating (TPP)Ru(CO)(THF) (TPPH2 = meso-5,10,15,20-tetraphenylporphyrin) with excess 2,6-di-tert-butyl-4-methylphenyl diazoacetate (ROCOCHN2) gave 91% of the (porphyrin)ruthenium(II) carbene complex (TPP)Ru(:CHCO2R)(THF) (1) due to a kinetic stability. Compound 1 was characterized by x-ray crystal structure anal. The reactivity of 1 toward axial ligands (CO, pyridine, dimethylphenylphosphine) and its catalysis of cyclopropanation of styrene with 2,6-di-tert-butyl-4-methylphenyl diazoacetate are also presented. The analogous, chiral ruthenium complex (Halt)Ru(:CHCO2R)(THF) [HaltH2 = the Halterman porphyrin = [(1S,4R,5R,8S)-1,2,3,4,5,6,7,8-octahydro-1,4:5,8-dimethanoanthracene-9-yl]porphyrin] was similarly prepared in 93% yield and catalyzed asym. cyclopropanation of styrene with the same bulky diazoacetate ester.

IT 74108-18-2P 1034979-30-0P

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation, structure and cyclopropanation catalytic activity of
(5,10,15,20-tetraphenylporphyrinato)ruthenium complex with bulky
carbene prepared from 2,6-di-tert-butyl-4-methylphenyl diazoacetate)

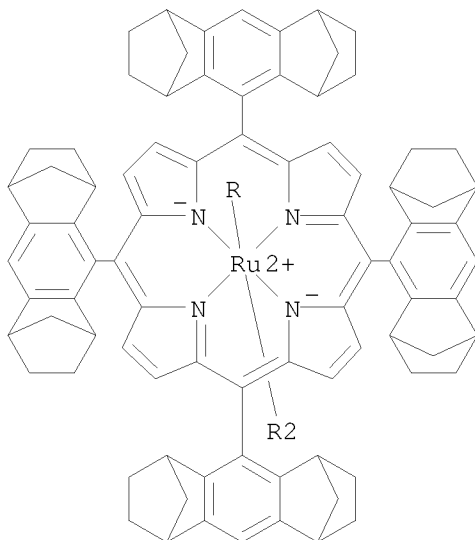
RN 74108-18-2 CAPLUS

CN Ruthenium, bis(dimethylphenylphosphine)[5,10,15,20-tetraphenyl-21H,23H-porphinato(2-)-N21,N22,N23,N24]-, (OC-6-12)-(9CI) (CA INDEX NAME)

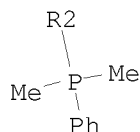
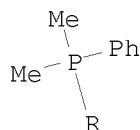


RN 1034979-30-0 CAPLUS
 CN Ruthenium, bis(dimethylphenylphosphine) [5,10,15,20-tetrakis[(1S,4R,5R,8S)-1,2,3,4,5,6,7,8-octahydro-1,4:5,8-dimethanoanthracen-9-yl]-21H,23H-porphinato(2-)-κN21,κN22,κN23,κN24]-, (OC-6-42)-
 (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



REFERENCE COUNT: 38 THERE ARE 38 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 3 OF 72 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2007:649971 CAPLUS

DOCUMENT NUMBER: 149:43668

TITLE: Synthesis and characterization of 1,3-diamine(phosphine)-Ruthenium(II) complexes using monodentate and bidentate phosphine ligands

AUTHOR(S): Warad, Ismail

CORPORATE SOURCE: Department of Chemistry, College of Science, King Saud University, Riyadh, 11751, Saudi Arabia

SOURCE: Journal of Saudi Chemical Society (2007), 11(1), 15-24
CODEN: JSCSFO; ISSN: 1319-6103

PUBLISHER: Saudi Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 149:43668

AB The neutral Ru(II), chelating phosphine or diphosphine (PP) with 1,3-diamine (NN = 1,3-diamino-2-propanol) of type [RuCl₂(PP)(NN)], are readily synthesized in very good yields in an inert atmospheric using dichloromethane as solvent. For the first time the ruthenium(II) complexes: [trans-Cl₂(PPh₃)₃(1,3-diamino-2-propanol)ruthenium(II)], [trans-Cl₂(dppp)₂(1,3-diamino-2-propanol)ruthenium(II)] and [trans-Cl₂(Ph₂PCH₂CH₂OCH₃)₂(1,3-diamino-2-propanol)ruthenium(II)] have been prepared at room temperature starting from [RuCl₂(PPh₃)₃], [RuCl₂(dppp)₂]

and [RuCl₂(Ph₂PCH₂CH₂OCH₃)₂], resp. Trans-RuCl₂ with nitrogen atoms trans to phosphorus atoms are the structurally favored (kinetic) isomers. This structural phenomenon has been monitored by ³¹P{¹H} NMR in CD₂Cl₂. All the mentioned complexes were fully characterized by NMR, IR, and FAB-MS as well as elemental anal.

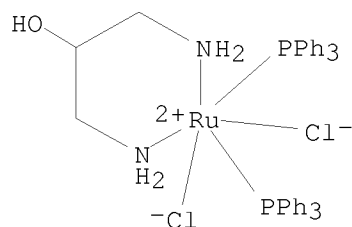
IT 1030633-29-4P 1030633-31-8P

RL: SPN (Synthetic preparation); PREP (Preparation)

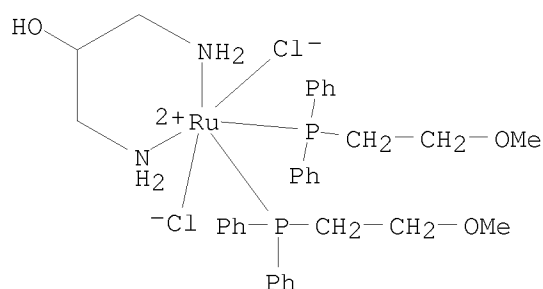
(preparation of ruthenium 1,3-diamino-2-propanol phosphine derivative complexes)

RN 1030633-29-4 CAPLUS

CN Ruthenium, dichloro[1,3-di(amino-κN)-2-propanol]bis(triphenylphosphine)-, (OC-6-13)- (CA INDEX NAME)



RN 1030633-31-8 CAPLUS
 CN Ruthenium, dichloro[1,3-di(amino-κN)-2-propanol]bis[(2-methoxyethyl)diphenylphosphine-κP]-, (OC-6-13)- (CA INDEX NAME)



REFERENCE COUNT: 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 4 OF 72 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2007:590779 CAPLUS

DOCUMENT NUMBER: 148:495829

TITLE: Coupling of epoxides with carbon dioxide catalyzed by ruthenium porphyrin complex

AUTHOR(S): Jin, Lili; Chang, Tao; Jing, Huanwang

CORPORATE SOURCE: State Key Laboratory of Applied Organic Chemistry, College of Chemistry and Chemical Engineering, Lanzhou University, Lanzhou, Gansu, 730000, Peop. Rep. China

SOURCE: Cuihua Xuebao (2007), 28(4), 287-289

CODEN: THHPD3; ISSN: 0253-9837

PUBLISHER: Kexue Chubanshe

DOCUMENT TYPE: Journal

LANGUAGE: Chinese

OTHER SOURCE(S): CASREACT 148:495829

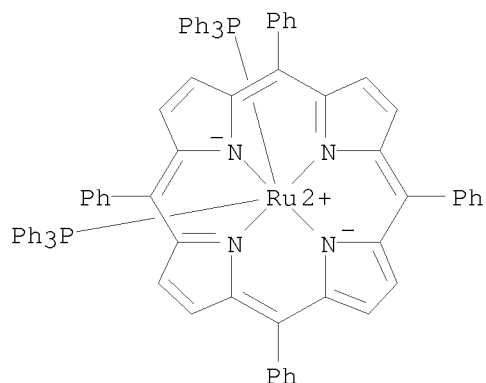
AB A coupling reaction of epoxides with carbon dioxide catalyzed by ruthenium-porphyrin was studied. Reaction conditions were optimized. A new catalyst system of Ru(TPP)(PPh3)2/phenyltrimethylammonium tribromide (PTAT) promoted by Et diazoacetate (EDA) is very efficient to catalyze the coupling reaction of various epoxides and CO2 at 323 K and the molar ratio of substrate:catalyst:EDA:PTAT = 200:1:1:2.

IT 34690-40-9, Bis(triphenylphosphine)[meso-tetraphenylporphinato(2-)]ruthenium

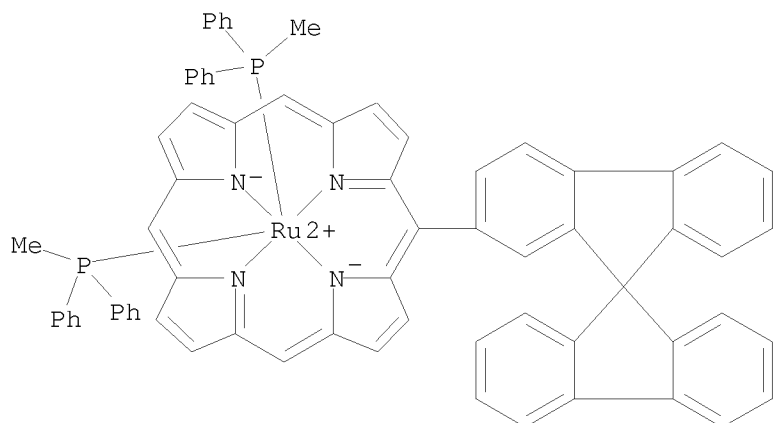
RL: CAT (Catalyst use); USES (Uses)

(preparation of dioxolanone derivs. via coupling and ring opening reaction of epoxides with carbon dioxide using ruthenium-porphine complex as catalyst in presence of phenyltrimethylammonium bromide and Et

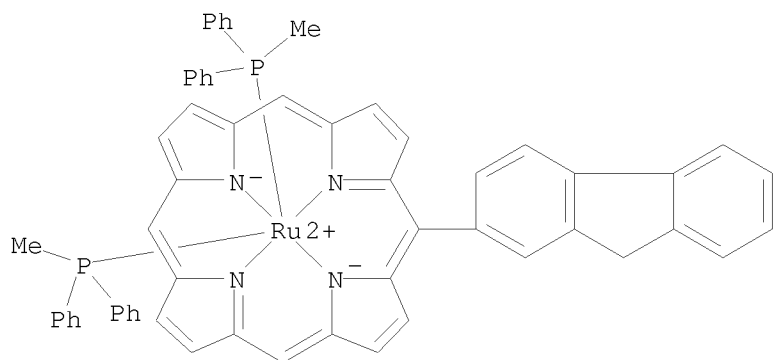
diazoacetate)
 RN 34690-40-9 CAPLUS
 CN Ruthenium, [5,10,15,20-tetraphenyl-21H,23H-porphinato(2-)-
 $\kappa\text{N}21, \kappa\text{N}22, \kappa\text{N}23, \kappa\text{N}24$]bis(triphenylphosphine)-,
 (OC-6-12)- (9CI) (CA INDEX NAME)



L6 ANSWER 5 OF 72 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 2007:520207 CAPLUS
 DOCUMENT NUMBER: 148:368686
 TITLE: Facial discrimination in monoarylporphyrins: Synthesis
 and stereochemical behaviour of bis(ligated)
 monospirobifluorenylporphyrin ruthenium complexes
 AUTHOR(S): Poriel, Cyril; Martail, Audrey; Simonneaux, Gerard
 CORPORATE SOURCE: UMR CNRS 6226, Unite Sciences Chimiques de Rennes,
 Campus de Beaulieu, Matiere Condensee et Systemes
 Electroactifs (MACSE), Rennes, 35042, Fr.
 SOURCE: Inorganic Chemistry Communications (2007), 10(6),
 627-630
 CODEN: ICCOFP; ISSN: 1387-7003
 PUBLISHER: Elsevier B.V.
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 148:368686
 AB Condensation of dipyrromethane, pyrrole-2-carbaldehyde with either
 9,9'-spirobifluorene or fluorene aldehyde yields new meso-monosubstituted,
 β -unsubstituted porphyrins. The large size of spirobifluorene
 hinders the rotation around the Cmeso-Caryl bond to give, for bis-ligated
 complexes, two different topol. faces.
 IT 1012080-91-9P 1012080-97-5P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of ruthenium fluorenyl and spirobifluorenyl monoaryl porphyrins
 showing facial discrimination)
 RN 1012080-91-9 CAPLUS
 CN Ruthenium, bis(methyldiphenylphosphine) [5-(9,9'-spirobi[9H-fluoren]-2-yl)-
 21H,23H-porphinato(2-)- $\kappa\text{N}21, \kappa\text{N}22, \kappa\text{N}23, \kappa\text{N}24$]-,
 (OC-6-13)- (CA INDEX NAME)



RN 1012080-97-5 CAPLUS
 CN Ruthenium, [5-(9H-fluoren-2-yl)-21H,23H-porphinato(2-)-
 κN21, κN22, κN23, κN24]bis(methyldiphenylphosphine)-,
 (OC-6-13)- (CA INDEX NAME)



REFERENCE COUNT: 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS
 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 6 OF 72 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 2007:362182 CAPLUS
 DOCUMENT NUMBER: 147:95222
 TITLE: Structural studies on ruthenium(II) complexes used in
 interphase catalysis for the hydrogenation of ketones
 AUTHOR(S): Krishnan, Venkata; Bertagnolli, Helmut
 CORPORATE SOURCE: Institute of Physical Chemistry, University of
 Stuttgart, Stuttgart, 70569, Germany
 SOURCE: Applied Organometallic Chemistry (2007), 21(3),
 161-171
 CODEN: AOCHEX; ISSN: 0268-2605
 PUBLISHER: John Wiley & Sons Ltd.
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB Structural studies were performed on catalytically active ruthenium(II)

complexes used in interphases, by means of XAFS spectroscopy. The EXAFS investigations indicate that the complexes retain their structural integrity when they are embedded on polysiloxane matrixes to form stationary phase materials. The AXAFS studies reveal that the variations in the catalytic activity of the complexes with different ligands can be correlated to the differences in the electronic structure around the active ruthenium center. The EXAFS investigations show that, in asym. transfer hydrogenation reactions catalyzed by ruthenium(II) complexes, the co-catalyst plays a crucial role not only in enhancing the catalytic activity, but also in determining the structure of the intermediate species.

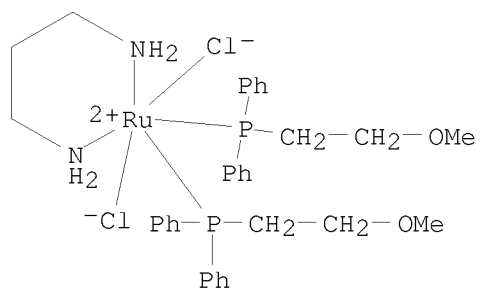
IT 396130-64-6

RL: CAT (Catalyst use); PRP (Properties); USES (Uses)

(EXAFS structural studies on ruthenium(II) complexes used in interphase catalysis for the transfer hydrogenation of ketones)

RN 396130-64-6 CAPLUS

CN Ruthenium, dichlorobis[(2-methoxyethyl)diphenylphosphine-κP](1,3-propanediamine-κN1,κN3)-, (OC-6-13)- (CA INDEX NAME)



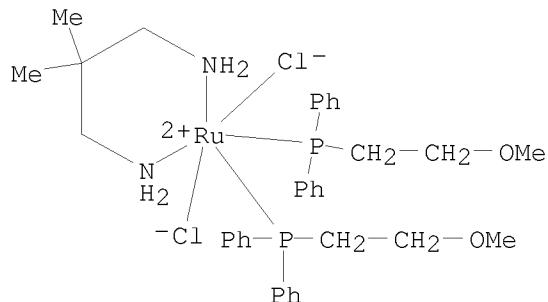
IT 620945-37-1

RL: CAT (Catalyst use); PRP (Properties); USES (Uses)

(monomer and embedded; EXAFS structural studies on ruthenium(II) complexes used in interphase catalysis for the transfer hydrogenation of ketones)

RN 620945-37-1 CAPLUS

CN Ruthenium, dichloro(2,2-dimethyl-1,3-propanediamine-κN1,κN3)bis[(2-methoxyethyl)diphenylphosphine-κP]-, (OC-6-13)- (CA INDEX NAME)

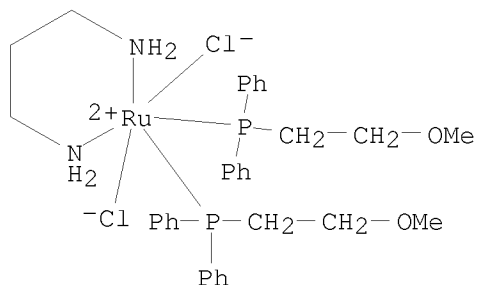


REFERENCE COUNT:

29

THERE ARE 29 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 7 OF 72 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 2007:25131 CAPLUS
 DOCUMENT NUMBER: 147:311602
 TITLE: Crystal structure of
 trans-dichloro-1,3-propanediamine-bis[(2-methoxyethyl)diphenylphosphine]ruthenium(II),
 $\text{RuCl}_2(\text{C}_3\text{H}_7\text{N}_2)(\text{C}_{15}\text{H}_{17}\text{OP})_2$
 AUTHOR(S): Warad, I.; Al-Resayes, S.; Eichele, K.
 CORPORATE SOURCE: Department of Chemistry, King Saud University at
 Riyadh, Saudi Arabia
 SOURCE: Zeitschrift fuer Kristallographie - New Crystal
 Structures (2006), 221(3), 275-277
 CODEN: ZKNSFT; ISSN: 1433-7266
 PUBLISHER: Oldenbourg Wissenschaftsverlag GmbH
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB The title compound is monoclinic, space group $P2_1/c$, with a 13.278(1), b
 10.315(1), c 24.825(3) Å, β 90.240(8)°; Z = 4. The Ru
 atom has mostly regular octahedral coordination by 2 Cl species in trans
 form, one diamine via the N atoms and 2 (2-methoxyethyl)diphenylphosphine
 ligands via the P atoms in cis forms.
 IT 396130-64-6
 RL: PRP (Properties)
 (crystal structure of)
 RN 396130-64-6 CAPLUS
 CN Ruthenium, dichlorobis[(2-methoxyethyl)diphenylphosphine- κP](1,3-
 propanediamine- $\kappa\text{N}1,\kappa\text{N}3$)-, (OC-6-13)- (CA INDEX NAME)



REFERENCE COUNT: 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS
 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 8 OF 72 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 2006:1277528 CAPLUS
 DOCUMENT NUMBER: 147:397121
 TITLE: Phosphorus-31 NMR and FAB-Mass spectroscopies to
 confirm synthesis of diamine(diphosphine)ruthenium(II)
 complexes starting from diamine(ether
 phosphine)ruthenium(II) complexes via phosphine
 ligands exchanged
 AUTHOR(S): Warad, Ismail; Al-Resayes, Saud I.
 CORPORATE SOURCE: Department of Chemistry, Girls College at Hawtat
 Sudayr, Saudi Arabia
 SOURCE: Journal of Saudi Chemical Society (2006), 10(2),

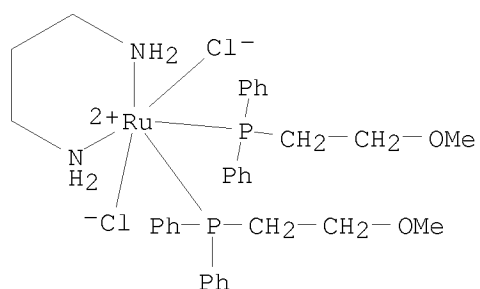
285-294
 CODEN: JSCSFO; ISSN: 1319-6103
 PUBLISHER: Saudi Chemical Society
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 147:397121

AB The ligands exchange of the ether-phosphine (Ph₂PCH₂CH₂OCH₃) on the diamine(etherphosphine)ruthenium(II) with 1,3-bis(diphenylphosphino)propane as a bidentate chelate ligand successfully occurs to produce diamine[1,3-bis(diphenylphosphino)propane]ruthenium(II) complexes in a good yields under vigorous stirring for one week in an inert atmospheric using CH₂Cl₂ as solvent. Several ether-phosphine-RuCl₂ complexes with different types of diamine were tested to confirm the substitution method. To collect more information about the system ³¹P{¹H} NMR and ¹³C{¹H} NMR as well as FAB-Mass spectroscopy were studied in parallel way to control and support the ligands exchange reaction processes.

IT 396130-64-6
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (preparation of diamine(diphosphine)ruthenium(II) complexes starting from diamine(ether phosphine)ruthenium(II) complexes via phosphine ligand exchanged)

RN 396130-64-6 CAPLUS

CN Ruthenium, dichlorobis[(2-methoxyethyl)diphenylphosphine-κP](1,3-propanediamine-κN1,κN3)-, (OC-6-13)- (CA INDEX NAME)



REFERENCE COUNT: 23 THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 9 OF 72 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 2006:591508 CAPLUS
 DOCUMENT NUMBER: 145:240314
 TITLE: One-Pot Synthesis of Metal Primary Phosphine Complexes from O:PCl₂R or PCl₂R. Isolation and Characterization of Primary Alkylphosphine Complexes of a Metalloporphyrin
 AUTHOR(S): Huang, Jie-Sheng; Yu, Guang-Ao; Xie, Jin; Zhu, Nianying; Che, Chi-Ming
 CORPORATE SOURCE: Department of Chemistry and Open Laboratory of Chemical Biology of the Institute of Molecular Technology for Drug Discovery and Synthesis, The University of Hong Kong, Hong Kong
 SOURCE: Inorganic Chemistry (2006), 45(15), 5724-5726
 CODEN: INOCAJ; ISSN: 0020-1669

PUBLISHER: American Chemical Society
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 145:240314

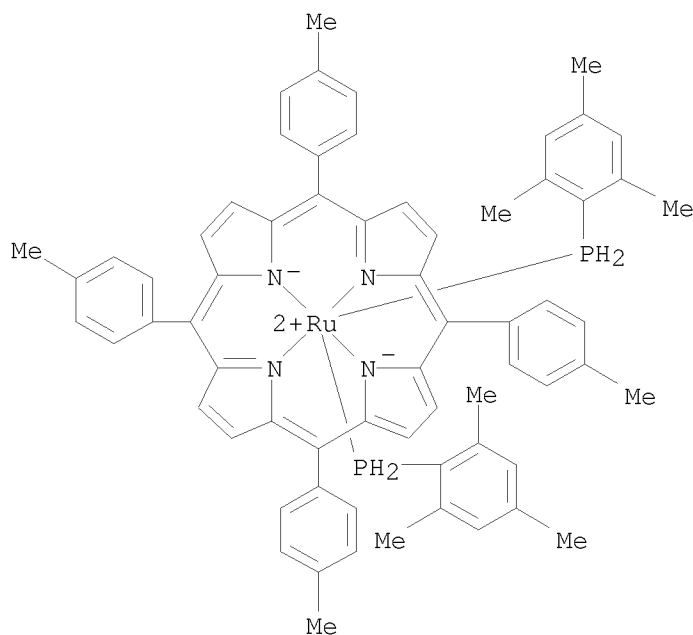
AB Treatment of [RuII(Por)(CO)] [Por = porphyrinato(2-)] and O:PCl₂R [R = Ad (adamantyl), But, Busec] or PCl₂Mes (Mes = mesityl) with LiAlH₄ afforded primary alkyl- and arylphosphine complexes [RuII(Por)(PH₂R)₂], which were isolated in pure form and characterized by ¹H NMR, ³¹P NMR, IR, and UV-visible spectroscopy and mass spectrometry. The structures of [RuII(TTP)(PH₂Ad)₂] and [RuII(F20-TTP)(PH₂Mes)₂] were determined by x-ray crystallog.

IT 905710-39-6P 905710-40-9P 905710-42-1P
 905710-44-3P 905710-46-5P 905710-48-7P
 905710-50-1P 905710-52-3P 905710-53-4P

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (preparation and multinuclear NMR spectra)

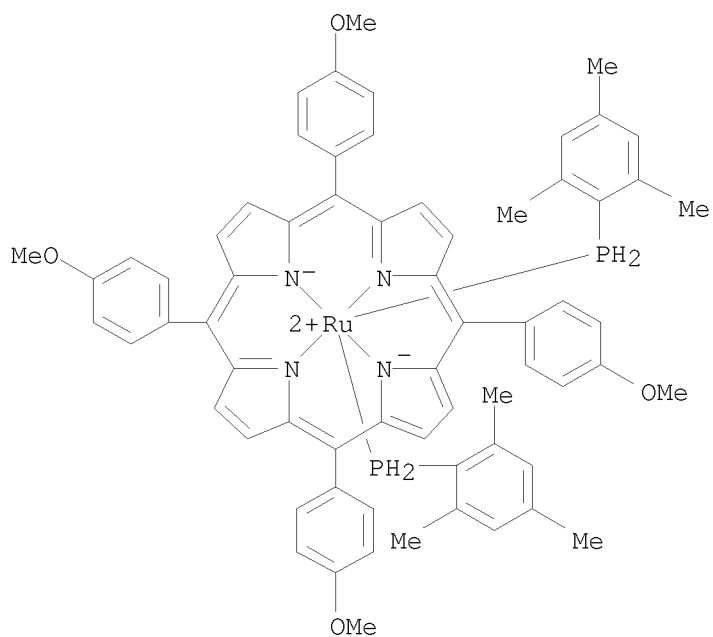
RN 905710-39-6 CAPLUS

CN Ruthenium, [5,10,15,20-tetrakis(4-methylphenyl)-21H,23H-porphinato(2-)-
 κ N21, κ N22, κ N23, κ N24]bis[(2,4,6-
 trimethylphenyl)phosphine]-, (OC-6-12)- (9CI) (CA INDEX NAME)



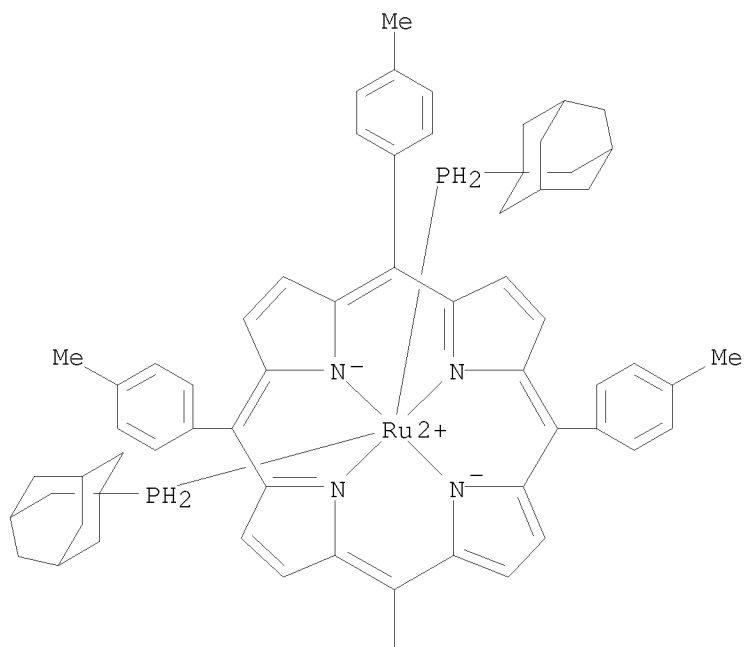
RN 905710-40-9 CAPLUS

CN Ruthenium, [5,10,15,20-tetrakis(4-methoxyphenyl)-21H,23H-porphinato(2-)-
 κ N21, κ N22, κ N23, κ N24]bis[(2,4,6-
 trimethylphenyl)phosphine]-, (OC-6-12)- (9CI) (CA INDEX NAME)

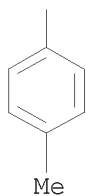


RN 905710-42-1 CAPLUS
 CN Ruthenium, [5,10,15,20-tetrakis(4-methylphenyl)-21H,23H-porphinato(2-)-
 κ N21, κ N22, κ N23, κ N24]bis(tricyclo[3.3.1.1.3,7]dec-1-ylphosphine)-, (OC-6-12)- (9CI) (CA INDEX NAME)

PAGE 1-A

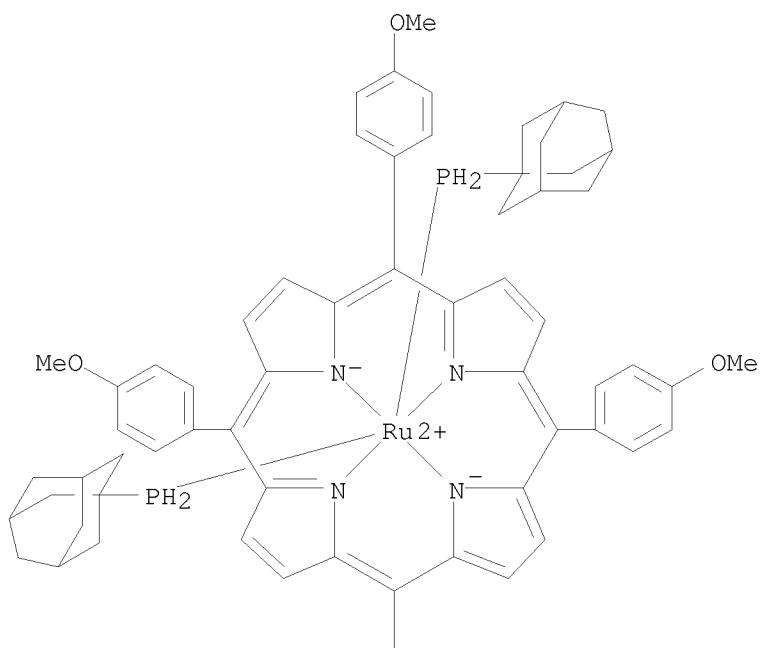


PAGE 2-A

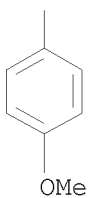


RN 905710-44-3 CAPLUS
 CN Ruthenium, [5,10,15,20-tetrakis(4-methoxyphenyl)-21H,23H-porphinato(2-)-
 κN21,κN22,κN23,κN24]bis(tricyclo[3.3.1.1.3,7]dec-1-ylphosphine)-, (OC-6-12)- (9CI) (CA INDEX NAME)

PAGE 1-A

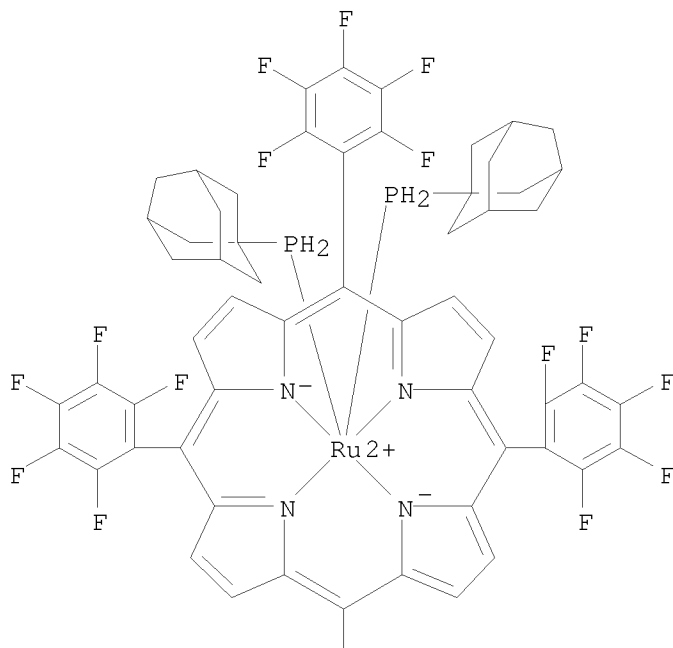


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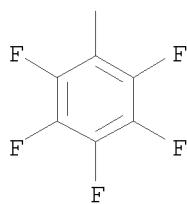


RN 905710-46-5 CAPLUS
 CN Ruthenium, [5,10,15,20-tetrakis(pentafluorophenyl)-21H,23H-porphinato(2-)-
 κ N21, κ N22, κ N23, κ N24]bis(tricyclo[3.3.1.1.3,7]dec-1-ylphosphine)-, (OC-6-12)- (9CI) (CA INDEX NAME)

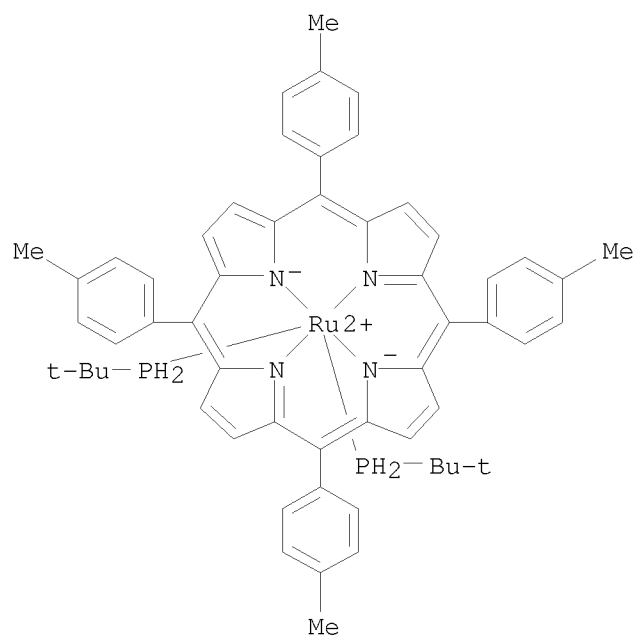
PAGE 1-A



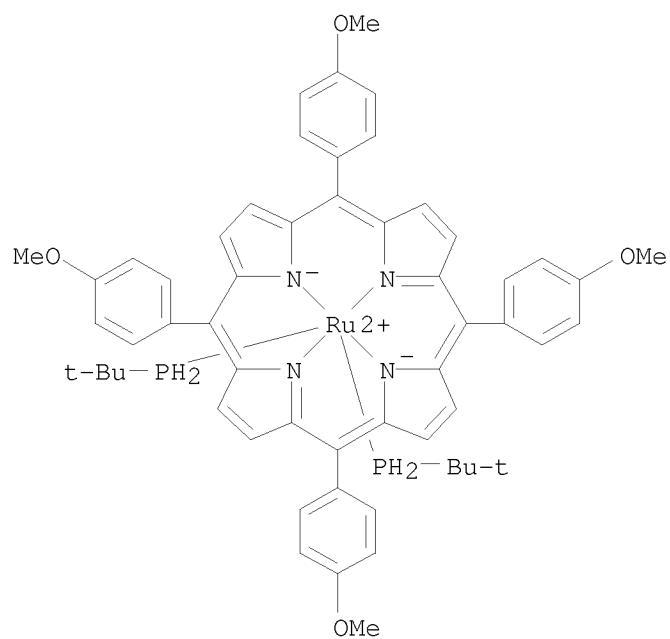
PAGE 2-A



RN 905710-48-7 CAPLUS
 CN Ruthenium, bis[(1,1-dimethylethyl)phosphine][5,10,15,20-tetrakis(4-methylphenyl)-21H,23H-porphinato(2-)-
 κ N21, κ N22, κ N23, κ N24]-, (OC-6-12)- (9CI) (CA INDEX NAME)

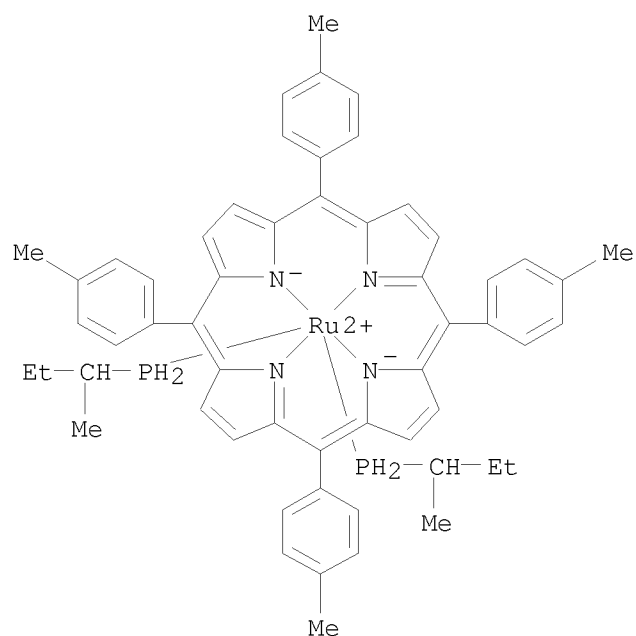


RN 905710-50-1 CAPLUS
 CN Ruthenium, bis[(1,1-dimethylethyl)phosphine][5,10,15,20-tetrakis(4-methoxyphenyl)-21H,23H-porphinato(2-)- κ N21, κ N22, κ N23, κ N24]-, (OC-6-12)-(9CI) (CA INDEX NAME)



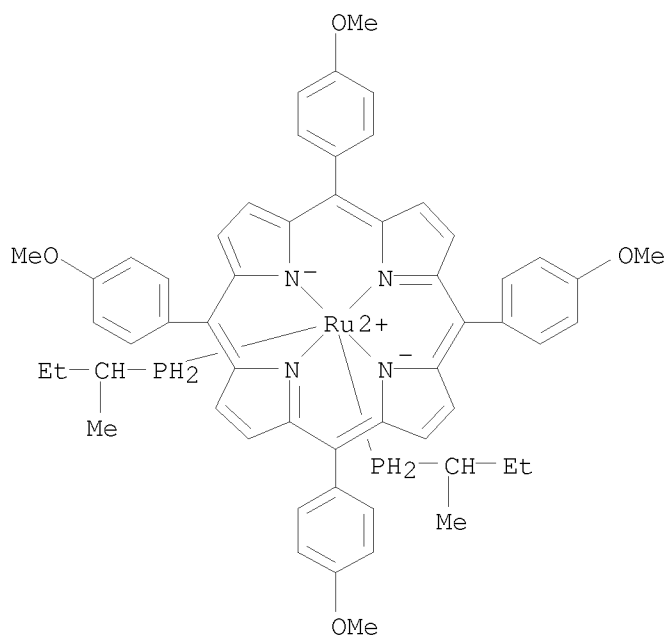
RN 905710-52-3 CAPLUS

CN Ruthenium, bis[(1-methylpropyl)phosphine][5,10,15,20-tetrakis(4-methylphenyl)-21H,23H-porphinato(2-)- κ N21, κ N22, κ N23, κ N24]-, (OC-6-12)-(9CI) (CA INDEX NAME)



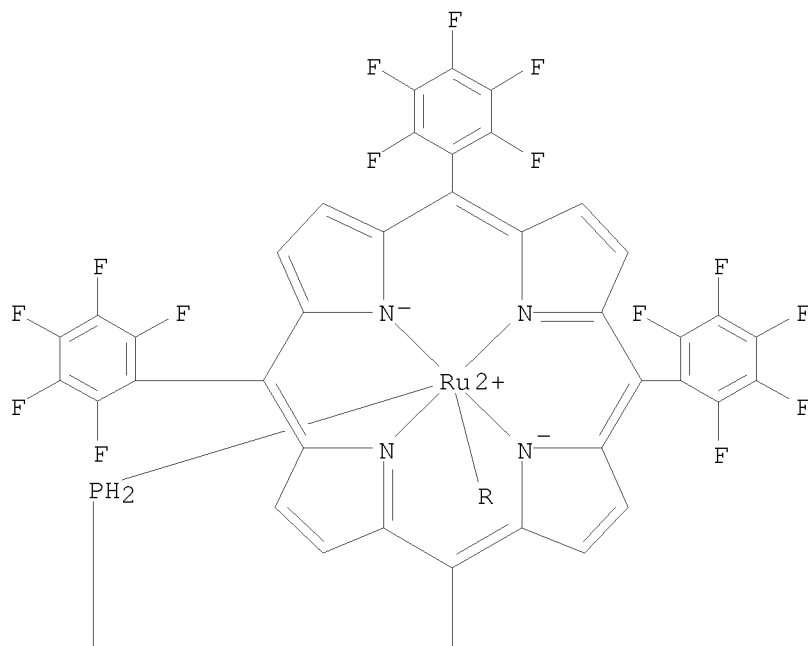
RN 905710-53-4 CAPLUS

CN Ruthenium, bis[(1-methylpropyl)phosphine][5,10,15,20-tetrakis(4-methoxyphenyl)-21H,23H-porphinato(2-)- κ N21, κ N22, κ N23, κ N24]-, (OC-6-12)-(9CI) (CA INDEX NAME)

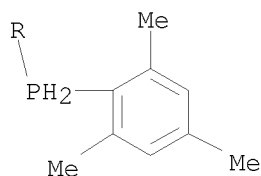
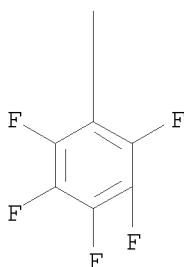
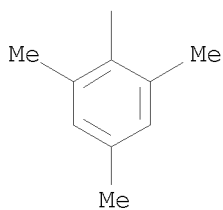


IT 905710-41-0P 905710-54-5P
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (preparation, crystal structure and multinuclear NMR spectra)
 RN 905710-41-0 CAPLUS
 CN Ruthenium, [5,10,15,20-tetrakis(pentafluorophenyl)-21H,23H-porphinato(2-)-
 κN21,κN22,κN23,κN24]bis[(2,4,6-
 trimethylphenyl)phosphine]-, (OC-6-12)-(9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



RN 905710-54-5 CAPLUS
 CN Ruthenium, [5,10,15,20-tetrakis(pentafluorophenyl)-21H,23H-porphinato(2-)-
 κN21,κN22,κN23,κN24]bis[(2,4,6-trimethylphenyl)phosphine]-, (OC-6-12)-, compd. with pentane (1:2) (9CI)
 (CA INDEX NAME)

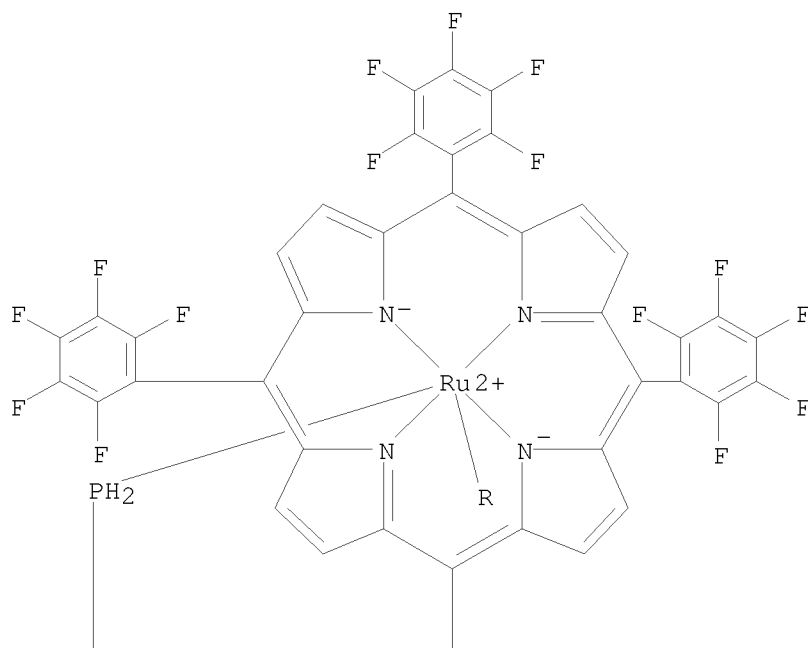
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CRN 905710-41-0

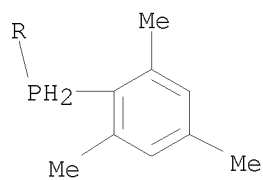
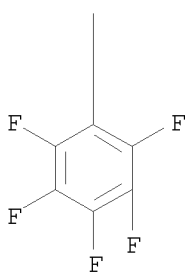
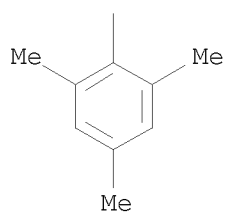
CMF C62 H34 F20 N4 P2 Ru

CCI CCS

PAGE 1-A



PAGE 2-A



CM 2

CRN 109-66-0
CMF C5 H12



REFERENCE COUNT: 23 THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 10 OF 72 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2006:483266 CAPLUS

DOCUMENT NUMBER: 145:248894

TITLE: Use of Achiral (Diphosphine)RuCl₂(Diamine)
Precatalysts as a Practical Alternative to Sodium
Borohydride for Ketone Reduction

AUTHOR(S): de Koning, Pieter D.; Jackson, Mark; Lennon, Ian C.

CORPORATE SOURCE: Dowpharma Chirotech Technology Limited, Cambridge, CB4
0WG, UK

SOURCE: Organic Process Research & Development (2006), 10(5),
1054-1058

CODEN: OPRDFK; ISSN: 1083-6160

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 145:248894

AB Stoichiometric sodium borohydride is frequently used in the chemoselective reduction of ketones to racemic secondary alcs. Catalytic homogeneous hydrogenation using (diphosphine)RuCl₂(diamine) complexes provides a practical and economic alternative. A range of substrates were investigated and the optimum precatalyst identified in each case. Norcamphor was reduced with high diastereoselectivity using (Ph₃P)₂RuCl₂(en); (E)-4-phenylbut-3-en-2-one was reduced with good chemoselectivity, and acetophenone was hydrogenated very efficiently using the same precatalyst. Isophorone and 3-dimethylaminopropiophenone were effectively hydrogenated using (dppf)RuCl₂(en).

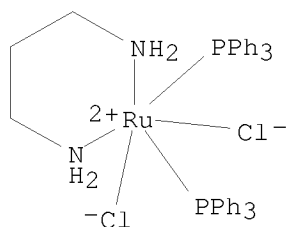
IT 899444-53-2P 899444-55-4P

RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation);
USES (Uses)

(use of achiral (diphosphine)RuCl₂(diamine) precatalysts as a practical alternative to sodium borohydride for ketone reduction)

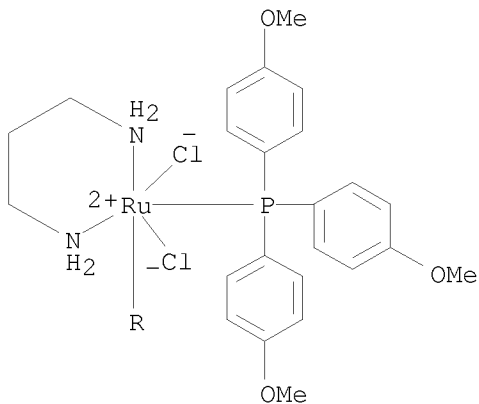
RN 899444-53-2 CAPLUS

CN Ruthenium, dichloro(1,3-propanediamine-
κN,κN')bis(triphenylphosphine)-, (OC-6-13)- (9CI) (CA INDEX
NAME)

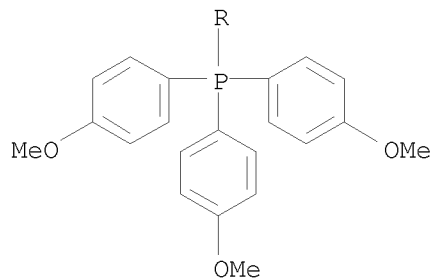


RN 899444-55-4 CAPLUS
 CN Ruthenium, dichloro(1,3-propanediamine- κ N, κ N')bis[tris(4-methoxyphenyl)phosphine- κ P]-, (OC-6-13)- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



REFERENCE COUNT: 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 11 OF 72 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 2005:1287335 CAPLUS
 DOCUMENT NUMBER: 144:162940
 TITLE: Hydrocarbon oxidation by β -Halogenated

dioxoruthenium(VI) porphyrin complexes: Effect of reduction potential (RuVI/V) and C-H bond-dissociation energy on rate constants

AUTHOR(S): Che, Chi-Ming; Zhang, Jun-Long; Zhang, Rui; Huang, Jie-Sheng; Lai, Tat-Shing; Tsui, Wai-Man; Zhou, Xiang-Ge; Zhou, Zhong-Yuan; Zhu, Nianying; Chang, Chi Kwong

CORPORATE SOURCE: Department of Chemistry and Open Laboratory of Chemical Biology of the Institute of Molecular Technology for Drug Discovery and Synthesis, The University of Hong Kong, Hong Kong, Peop. Rep. China

SOURCE: Chemistry--A European Journal (2005), 11(23), 7040-7053
CODEN: CEUJED; ISSN: 0947-6539

PUBLISHER: Wiley-VCH Verlag GmbH & Co. KGaA

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 144:162940

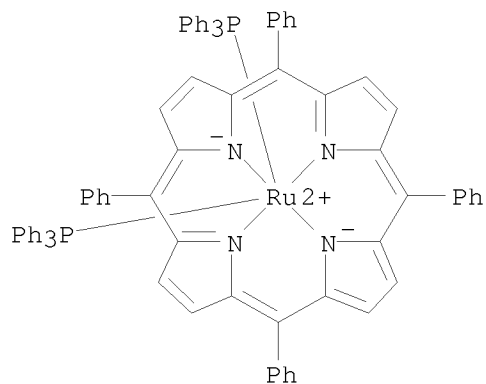
AB β -Halogenated dioxoruthenium(VI) porphyrin complexes, [RuVI(F28-tpp)O2] [F28-tpp = 2,3,7,8,12,13,17,18-octafluoro-5,10,15,20-tetrakis(pentafluorophenyl)porphyrinato(2-)] and [RuVI(β -Br8-tmp)O2] [β -Br8-tmp = 2,3,7,8,12,13,17,18-octabromo-5,10,15,20-tetrakis(2,4,6-trimethylphenyl)porphyrinato(2-)], were prepared from reactions of [RuII(por)(CO)] [por = porphyrinato(2-)] with m-chloroperoxybenzoic acid in CH2Cl2. Reactions of [RuVI(por)O2] with excess PPh3 in CH2Cl2 gave [RuII(F20-tpp)(PPh3)2] [F20-tpp = 5,10,15,20-tetrakis(pentafluorophenyl)porphyrinato(2-)] and [RuII(F28-tpp)(PPh3)2]. The structures of [RuII(por)(CO)(H2O)] and [RuII(por)(PPh3)2] (por = F20-tpp, F28-tpp) were determined by x-ray crystallog., revealing the effect of β -fluorination of the porphyrin ligand on the coordination of axial ligands to ruthenium atom. The x-ray crystal structure of [RuVI(F20-tpp)O2] shows a Ru-O bond length of 1.718(3) Å. Electrochem. reduction of [RuVI(por)O2] (RuVI to RuV) is irreversible or quasi-reversible, with the Ep.c(RuVI/V) spanning -0.31 to -1.15 V vs. Cp2Fe+/0. Kinetic studies were performed for the reactions of various [RuVI(por)O2], including [RuVI(F28-tpp)O2] and [RuVI(β -Br8-tmp)O2], with para-substituted styrenes p-X-C6H4CH=CH2 (X = H, F, Cl, Me, MeO), cis- and trans- β -methylstyrene, cyclohexene, norbornene, ethylbenzene, cumene, 9,10-dihydroanthracene, xanthene, and fluorene. The 2nd-order rate consts. (k2) obtained for the hydrocarbon oxidns. by [RuVI(F28-tpp)O2] are up to 28-fold larger than by [RuVI(F20-tpp)O2]. Dual-parameter Hammett correlation implies that the styrene oxidation by [RuVI(F28-tpp)O2] should involve rate-limiting generation of a benzylic radical intermediate, and the spin delocalization effect is more important than the polar effect. The k2 values for the oxidation of styrene and ethylbenzene by [RuVI(por)O2] increase with Ep.c(RuVI/V), and there is a linear correlation between log k2 and Ep.c(RuVI/V). The small slope (≈ 2 V-1) of the log k2 vs. Ep.c(RuVI/V) plot suggests that the extent of charge transfer is small in the rate-determining step of the hydrocarbon oxidns. The rate consts. correlate well with the C-H bond dissociation energies, in favor of a hydrogen-atom abstraction mechanism.

IT 34690-40-9
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)
(electrochem. redox potentials)

RN 34690-40-9 CAPLUS

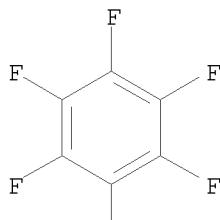
CN Ruthenium, [5,10,15,20-tetraphenyl-21H,23H-porphinato(2-)-

$\kappa N21, \kappa N22, \kappa N23, \kappa N24$]bis(triphenylphosphine)-,
(OC-6-12)- (9CI) (CA INDEX NAME)

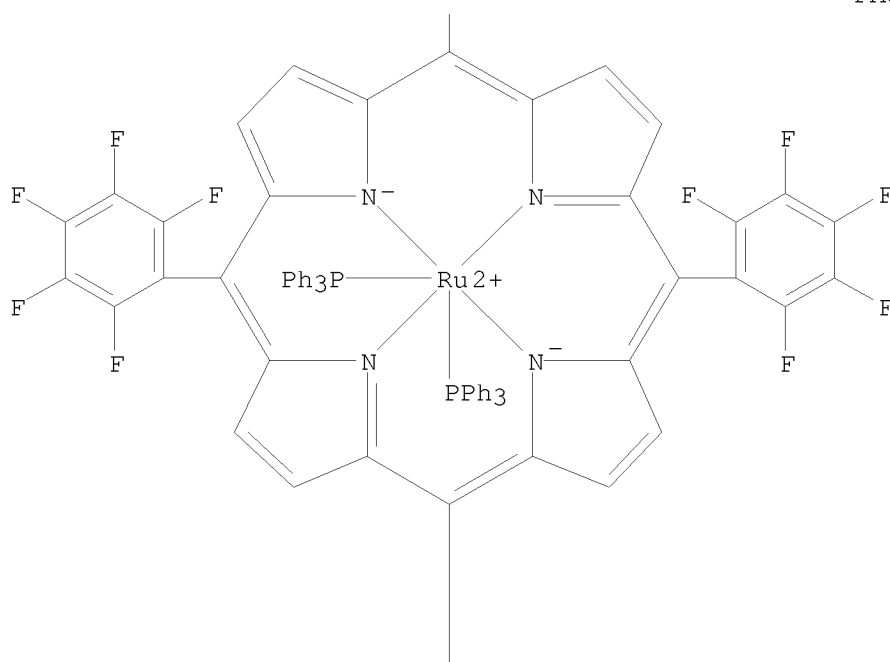


IT 873888-99-4P 873889-00-0P
 RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); PROC (Process)
 (preparation and crystal and mol. structure and electrochem. redox potentials)
 RN 873888-99-4 CAPLUS
 CN Ruthenium, [5,10,15,20-tetrakis(pentafluorophenyl)-21H,23H-porphinato(2-)-
 $\kappa N21, \kappa N22, \kappa N23, \kappa N24$]bis(triphenylphosphine)-,
 (OC-6-12)- (9CI) (CA INDEX NAME)

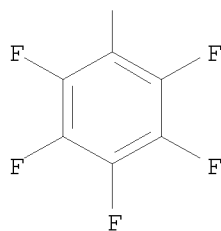
PAGE 1-A



PAGE 2-A

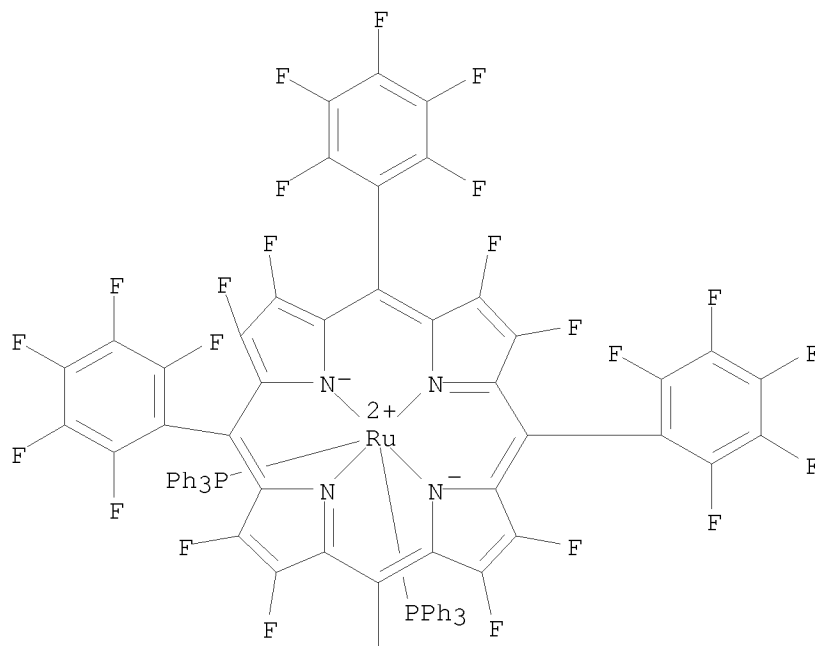


PAGE 3-A

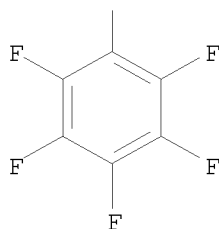


RN 873889-00-0 CAPLUS
 CN Ruthenium, [2,3,7,8,12,13,17,18-octafluoro-5,10,15,20-tetrakis(pentafluorophenyl)-21H,23H-porphinato(2-)-κN21,κN22,κN23,κN24]bis(triphenylphosphine)-, (OC-6-12)- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



REFERENCE COUNT: 96 THERE ARE 96 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 12 OF 72 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 2005:1028670 CAPLUS
 DOCUMENT NUMBER: 144:399788
 TITLE: Combinatorial micro electrochemistry. Part 4: Cyclic voltammetric redox screening of homogeneous ruthenium(II) hydrogenation catalysts
 AUTHOR(S): Lindner, Ekkehard; Lu, Zhong-Lin; Mayer, Hermann A.; Speiser, Bernd; Tittel, Carsten; Warad, Ismail
 CORPORATE SOURCE: Institut fuer Anorganische Chemie, Universitaet Tuebingen, Tuebingen, D-72076, Germany
 SOURCE: Electrochemistry Communications (2005), 7(10), 1013-1020
 CODEN: ECCMF9; ISSN: 1388-2481

PUBLISHER: Elsevier B.V.
 DOCUMENT TYPE: Journal
 LANGUAGE: English

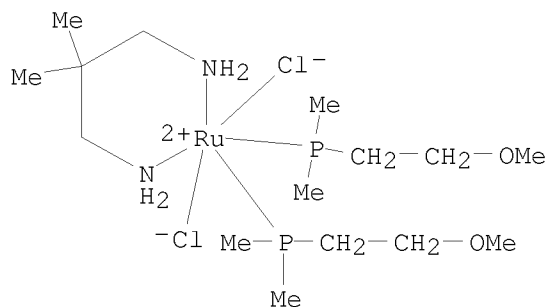
AB Organometallic Ru(II) complexes, which act as homogeneous hydrogenation catalysts, are characterized electrochem. with respect to their redox properties by a new screening technique (redox screening). Samples of the complexes are dissolved in an electrolyte and placed in the wells of microtiter plates. Electrode bundles are moved under computer control between these wells, and cyclic voltammograms are automatically recorded. Anal. of the current/potential curves shows a relation between the voltammogram shape or position and the catalytic activity of the complexes. Thus, the technique proves well suited as an electrochem.-based high-throughput method.

IT 618891-93-3

RL: CAT (Catalyst use); CPS (Chemical process); CST (Combinatorial study, unclassified); PEP (Physical, engineering or chemical process); PRP (Properties); CMBI (Combinatorial study); PROC (Process); USES (Uses)
 (cyclic voltammetric redox screening of hydrogenation catalysts for acetophenone)

RN 618891-93-3 CAPLUS

CN Ruthenium, dichloro(2,2-dimethyl-1,3-propanediamine- κ N, κ N')bis[(2-methoxyethyl)dimethylphosphine- κ P]-, (OC-6-13)- (9CI) (CA INDEX NAME)

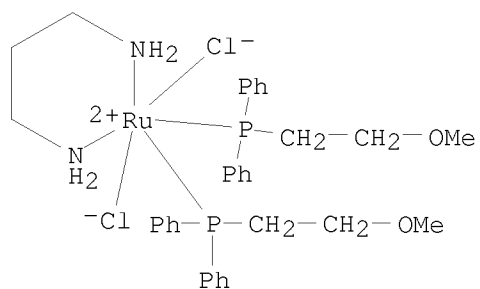


IT 396130-64-6 620945-37-1 620945-38-2

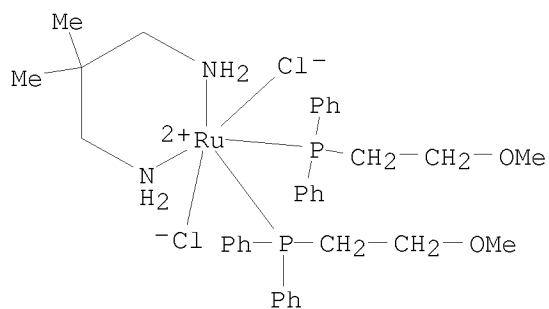
RL: CAT (Catalyst use); CPS (Chemical process); CST (Combinatorial study, unclassified); PEP (Physical, engineering or chemical process); PRP (Properties); CMBI (Combinatorial study); PROC (Process); USES (Uses)
 (cyclic voltammetric redox screening of hydrogenation catalysts for phenylbutenone)

RN 396130-64-6 CAPLUS

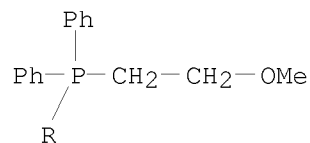
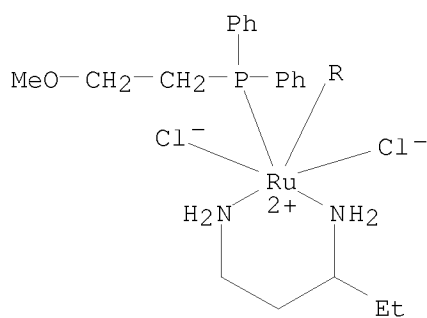
CN Ruthenium, dichlorobis[(2-methoxyethyl)diphenylphosphine- κ P](1,3-propanediamine- κ N1, κ N3)-, (OC-6-13)- (CA INDEX NAME)



RN 620945-37-1 CAPLUS
 CN Ruthenium, dichloro(2,2-dimethyl-1,3-propanediamine- κ N1, κ N3)bis[(2-methoxyethyl)diphenylphosphine- κ P]-, (OC-6-13)- (CA INDEX NAME)



RN 620945-38-2 CAPLUS
 CN Ruthenium, dichlorobis[(2-methoxyethyl)diphenylphosphine- κ P](1,3-pentanediamine- κ N, κ N')-, (OC-6-14)- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 43 THERE ARE 43 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 13 OF 72 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2005:595114 CAPLUS

DOCUMENT NUMBER: 143:248133

TITLE: Axial ligand effects: Utilization of chiral sulfoxide additives for the induction of asymmetry in (salen)ruthenium(II) olefin cyclopropanation catalysts

AUTHOR(S): Miller, Jason A.; Gross, Bradley A.; Zhuravel, Michael A.; Jin, Wiechang; Nguyen, SonBinh T.

CORPORATE SOURCE: Department of Chemistry, Northwestern University, Evanston, IL, 60208-3113, USA

SOURCE: Angewandte Chemie, International Edition (2005), 44(25), 3885-3889

CODEN: ACIEF5; ISSN: 1433-7851

PUBLISHER: Wiley-VCH Verlag GmbH & Co. KGaA

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 143:248133

AB An efficient and facile method is used to develop new (salen)ruthenium(II) catalysts for the asym. cyclopropanation of olefins, in which a chiral additive induces asymmetry in inexpensive and readily synthesized achiral (salen)ruthenium(II) catalysts. This approach is amenable to parallel-screening optimization and has great potential advantages over traditional catalyst development and synthetic methods.

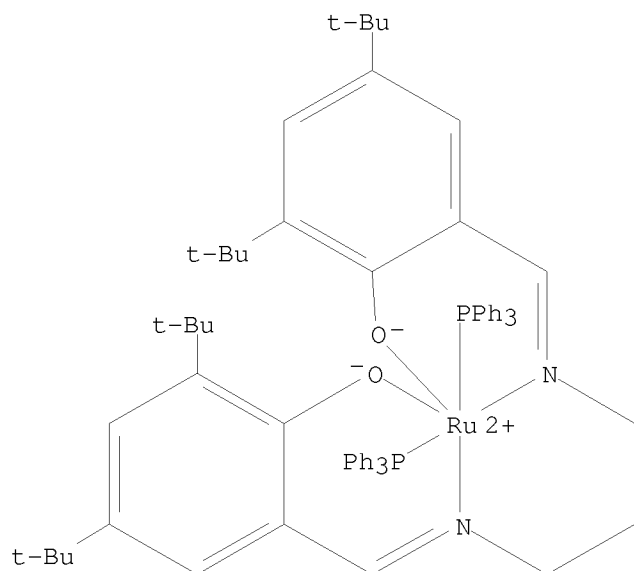
IT 863305-70-8

RL: CAT (Catalyst use); USES (Uses)

(use of chiral sulfoxide additives to induce asymmetry in (salen)ruthenium(II) olefin cyclopropanation catalysts)

RN 863305-70-8 CAPLUS

CN Ruthenium, [[2,2'-[1,3-propanediylbis[(nitrilo-κN)methylidyne]]bis[4,6-bis(1,1-dimethylethyl)phenolato-κO]](2-)]bis(triphenylphosphine)-, (OC-6-13)- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 23 THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 14 OF 72 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2005:364396 CAPLUS

DOCUMENT NUMBER: 143:52358

TITLE: Primary and secondary phosphane complexes of metalloporphyrins: Isolation, spectroscopy, and X-ray crystal structures of ruthenium and osmium porphyrins binding phenyl- or diphenylphosphane

AUTHOR(S): Xie, Jin; Huang, Jie-Sheng; Zhu, Nianying; Zhou, Zhong-Yuan; Che, Chi-Ming

CORPORATE SOURCE: Department of Chemistry and Open Laboratory of Chemical Biology of the Institute of Molecular Technology for Drug Discovery and Synthesis, The University of Hong Kong, Hong Kong

SOURCE: Chemistry--A European Journal (2005), 11(8), 2405-2416 CODEN: CEUJED; ISSN: 0947-6539

PUBLISHER: Wiley-VCH Verlag GmbH & Co. KGaA

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 143:52358

AB [RuII(por)(PHnPh3-n)2], [OsII(por)(CO)(PHnPh3-n)] (n = 1, 2), and [OsII(F20-tpp){P(OH)Ph2}(PHPh2)] (F20-tpp = 5,10,15,20-tetrakis(pentafluorophenyl)porphyrinato dianion) were prepared from the reaction of [MII(por)(CO)] (M = Ru, Os) or [OsVI(por)O2] with the resp. primary/secondary phosphine and characterized by 1H NMR, 31P NMR, UV/visible, and IR spectroscopy, mass spectrometry, and elemental anal. The reaction of [OsVI(por)O2] with PHPh2 also gave minor amts. of [OsII(por){P(OH)Ph2}2]. [RuII(F20-tpp)(PH2Ph)2] exhibits a remarkable stability toward air and shows a reversible metal-centered oxidation couple at E1/2 = 0.39 V vs. [Cp2Fe]+/0 in the cyclic voltammogram. The structures of [RuII(F20-tpp)(PH2Ph)2]·2CH2Cl2, [RuII(4-Cl-tpp)(PHPh2)2]·2CH2Cl2 (4-Cl-tpp = 5,10,15,20-tetrakis(p-chlorophenyl)porphyrinato dianion), [RuII(F20-tpp)(PHPh2)2], and [OsII(F20-tpp){P(OH)Ph2}2] were determined by x-ray crystallog. and feature Ru-P distances of 2.3397(11)-2.3609(9) Å and an Os-P distance of 2.369(2) Å.

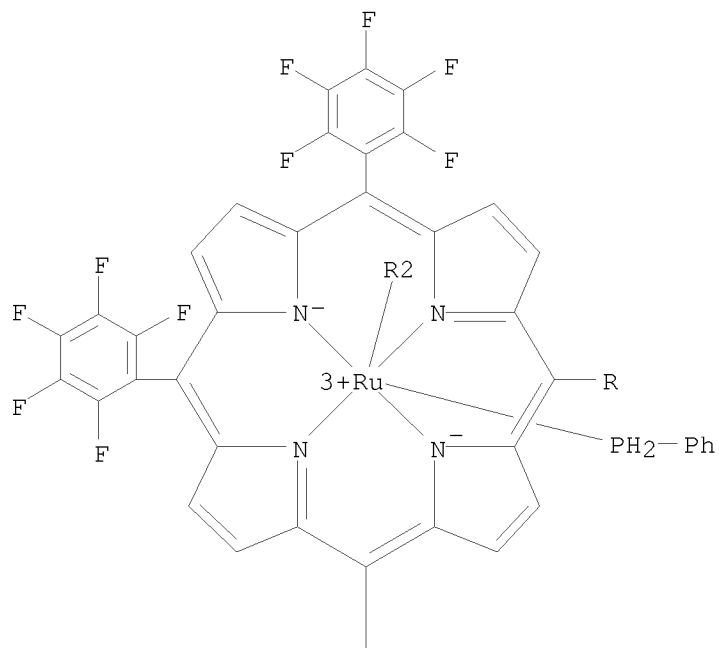
IT 853194-61-3 853194-62-4 853194-63-5
853194-64-6

RL: CPS (Chemical process); FMU (Formation, unclassified); PEP (Physical, engineering or chemical process); PRP (Properties); FORM (Formation, nonpreparative); PROC (Process)
(formation in electrochem. redox couple)

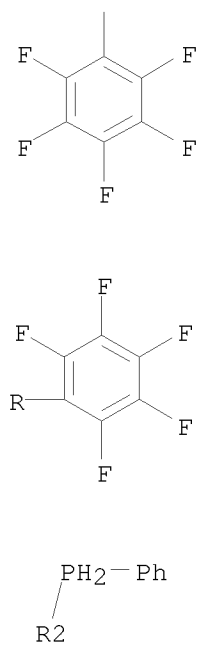
RN 853194-61-3 CAPLUS

CN Ruthenium(1+), bis(phenylphosphine)[5,10,15,20-tetrakis(pentafluorophenyl)-21H,23H-porphinato(2-)-κN21,κN22,κN23,κN24]-, (OC-6-12)- (9CI) (CA INDEX NAME)

PAGE 1-A



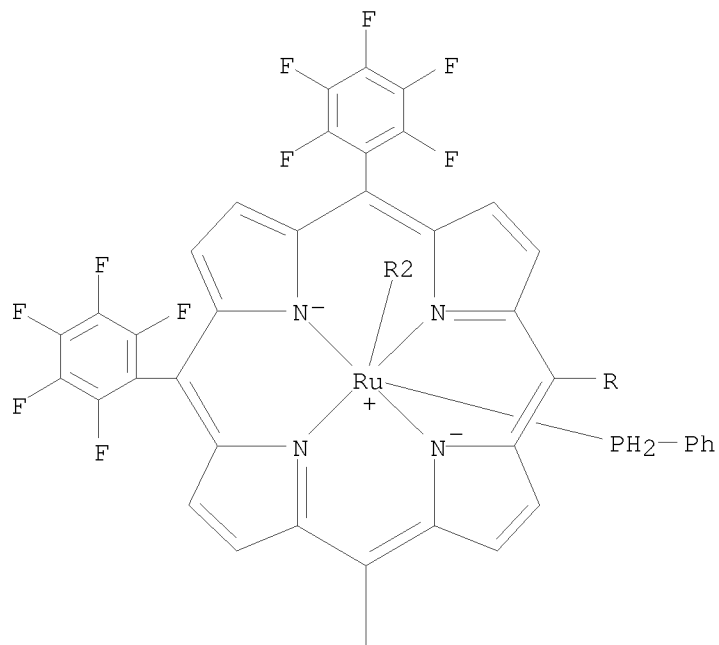
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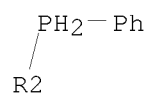
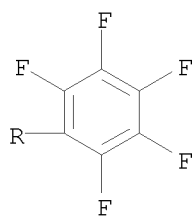
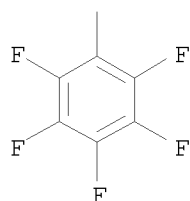
RN 853194-62-4 CAPLUS
 CN Ruthenate(1-), bis(phenylphosphine) [5,10,15,20-tetrakis(pentafluorophenyl)-

21H, 23H-porphinato(2-)- κ N21, κ N22, κ N23, κ N24]-,
(OC-6-12)- (9CI) (CA INDEX NAME)

PAGE 1-A

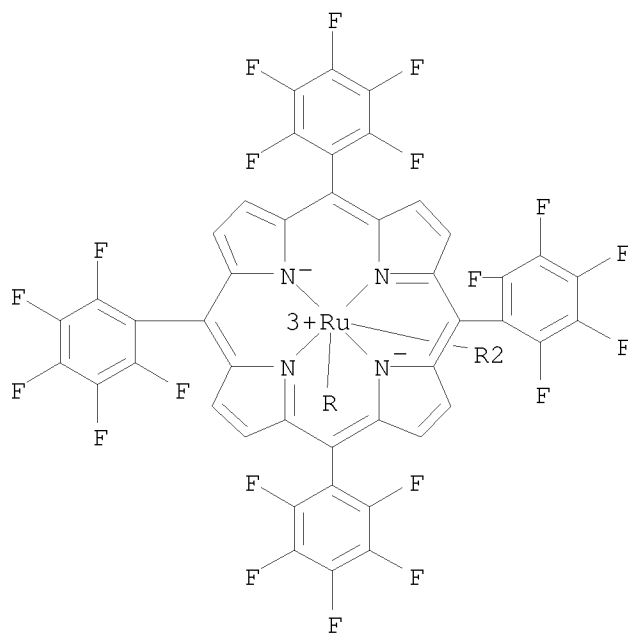


PAGE 2-A

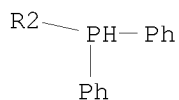
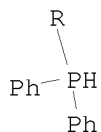


RN 853194-63-5 CAPLUS
 CN Ruthenium(1+), bis(diphenylphosphine) [5,10,15,20-tetrakis(pentafluorophenyl)-21H,23H-porphinato(2-)-κN21,κN22,κN23,κN24]-, (OC-6-12)- (9CI) (CA INDEX NAME)

PAGE 1-A

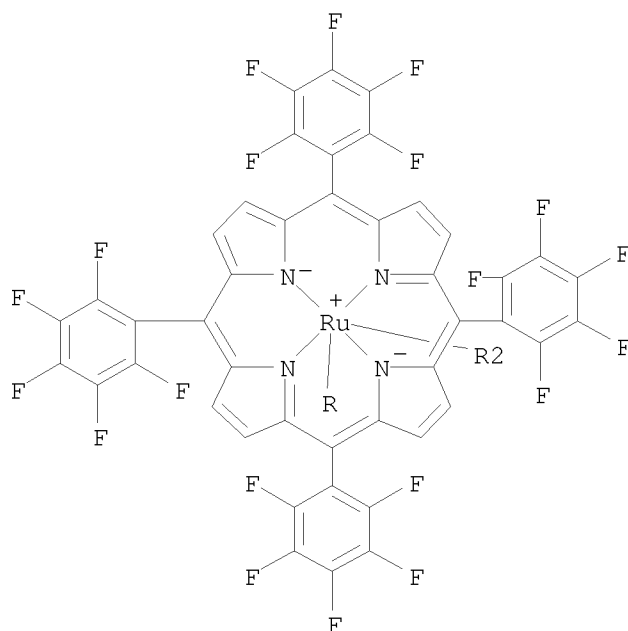


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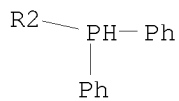
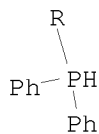


RN 853194-64-6 CAPLUS
 CN Ruthenate(1-), bis(diphenylphosphine) [5,10,15,20-tetrakis(pentafluorophenyl)-21H,23H-porphinato(2-)-κN21,κN22,κN23,κN24]-, (OC-6-12)- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A

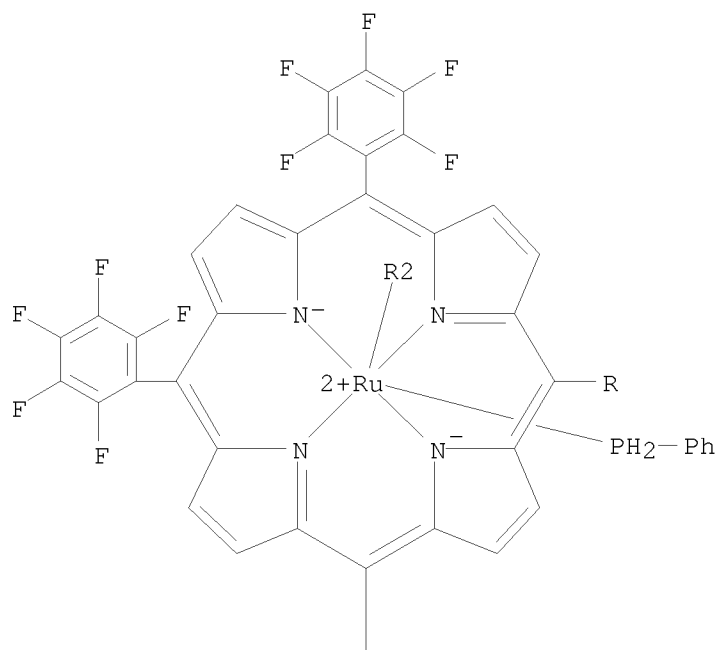


IT 853194-65-7P 853194-66-8P 853194-67-9P
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (preparation and crystal structure of)
 RN 853194-65-7 CAPLUS
 CN Ruthenium, bis(phenylphosphine) [5,10,15,20-tetrakis(pentafluorophenyl)-
 21H,23H-porphinato(2-)-κN21,κN22,κN23,κN24]-,
 (OC-6-12)-, compd. with dichloromethane (1:2) (9CI) (CA INDEX NAME)

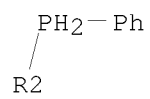
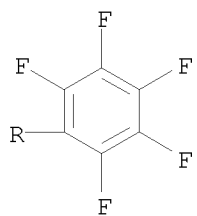
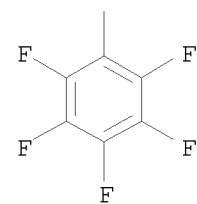
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PAGE 1-A



PAGE 2-A



CM 2

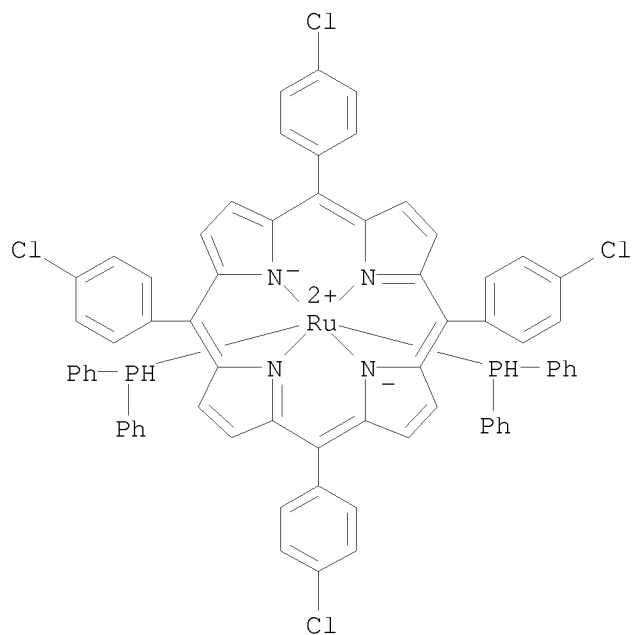
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CMF C H2 C12

Cl-CH₂-Cl

RN 853194-66-8 CAPLUS
CN Ruthenium, bis(diphenylphosphine) [5,10,15,20-tetrakis(4-chlorophenyl)-21H,23H-porphinato(2-)-κN21,κN22,κN23,κN24]-, (OC-6-12)-, compd. with dichloromethane (1:2) (9CI) (CA INDEX NAME)

CM 1

CRN 853194-52-2
CMF C68 H46 Cl4 N4 P2 Ru
CCI CCS



CM 2

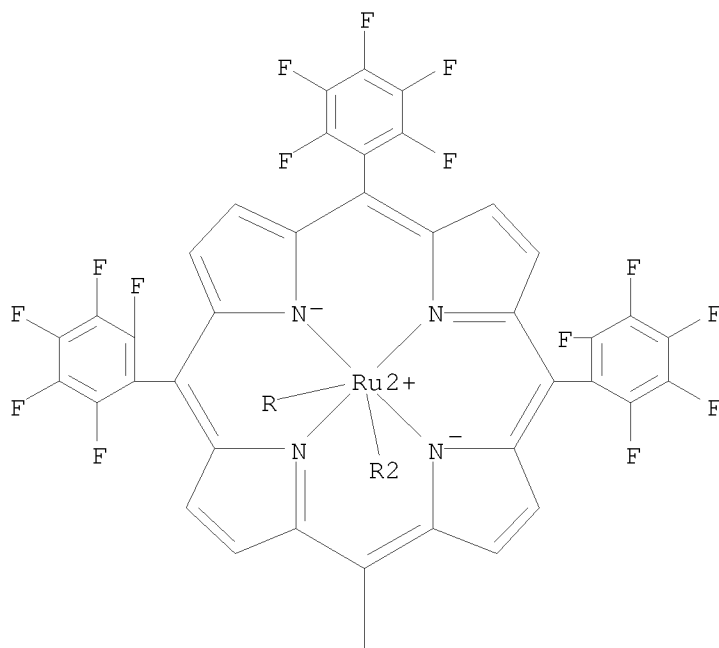
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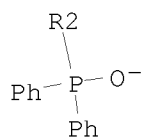
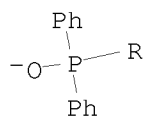
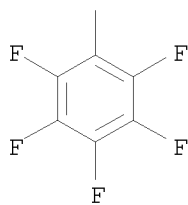
RN 853194-67-9 CAPLUS
CN Ruthenate(2-), bis(diphenylphosphinito-κP) [5,10,15,20-

tetrakis(pentafluorophenyl)-21H,23H-porphinato(2-)-
 $\kappa N21, \kappa N22, \kappa N23, \kappa N24]$ -, dihydrogen, (OC-6-12)-
 (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A

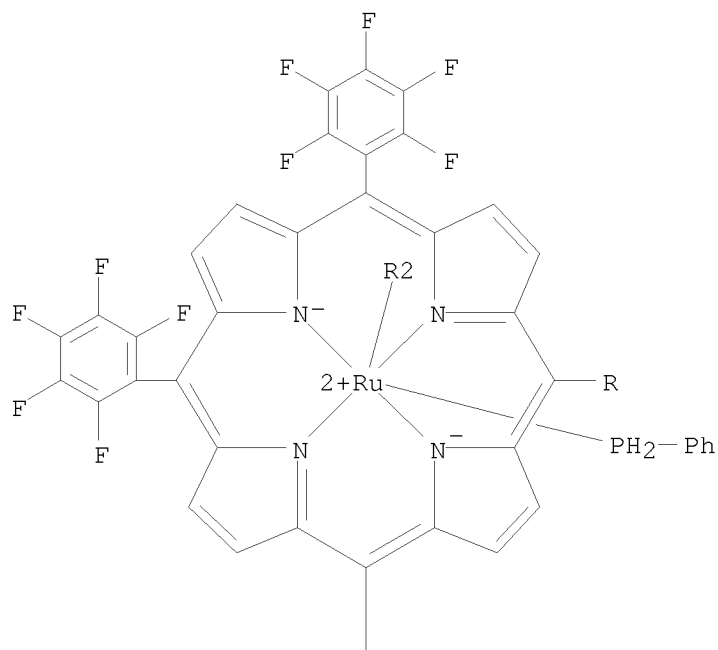


PAGE 3-A

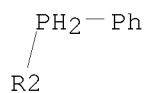
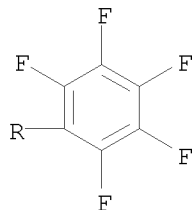
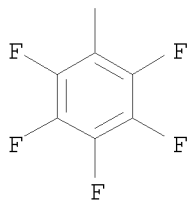


IT 853194-50-0P
 RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); PROC (Process)
 (preparation and cyclic voltammetry)
 RN 853194-50-0 CAPLUS
 CN Ruthenium, bis(phenylphosphine) [5,10,15,20-tetrakis(pentafluorophenyl)-21H,23H-porphinato(2-)-κN21,κN22,κN23,κN24]-, (OC-6-12)- (9CI) (CA INDEX NAME)

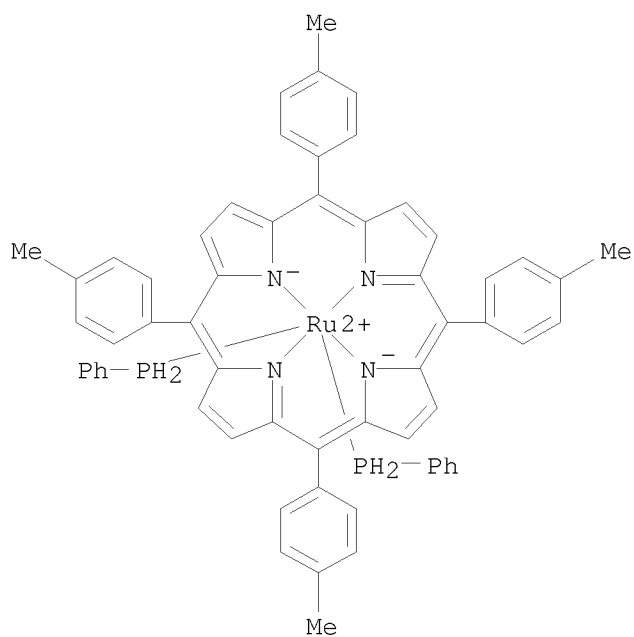
PAGE 1-A



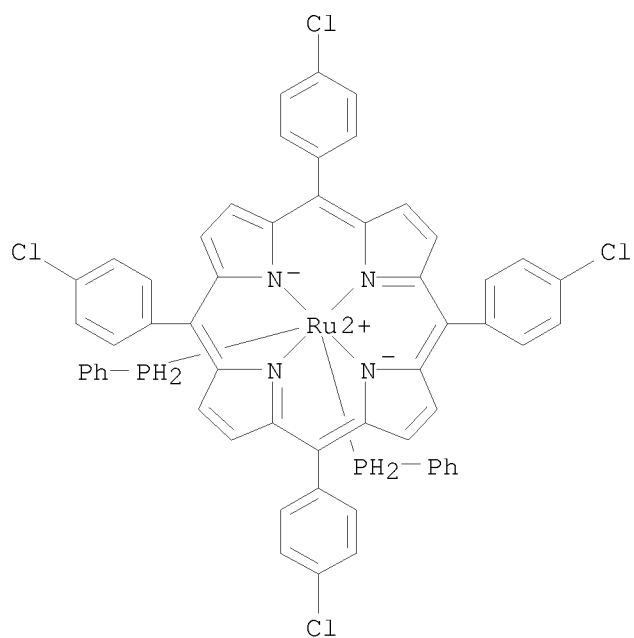
PAGE 2-A



IT 853194-47-5P 853194-48-6P 853194-49-7P
 853194-51-1P 853194-52-2P 853194-53-3P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of)
 RN 853194-47-5 CAPLUS
 CN Ruthenium, bis(phenylphosphine)[5,10,15,20-tetrakis(4-methylphenyl)-
 21H,23H-porphinato(2-)-κN21,κN22,κN23,κN24]-,
 (OC-6-12)- (9CI) (CA INDEX NAME)

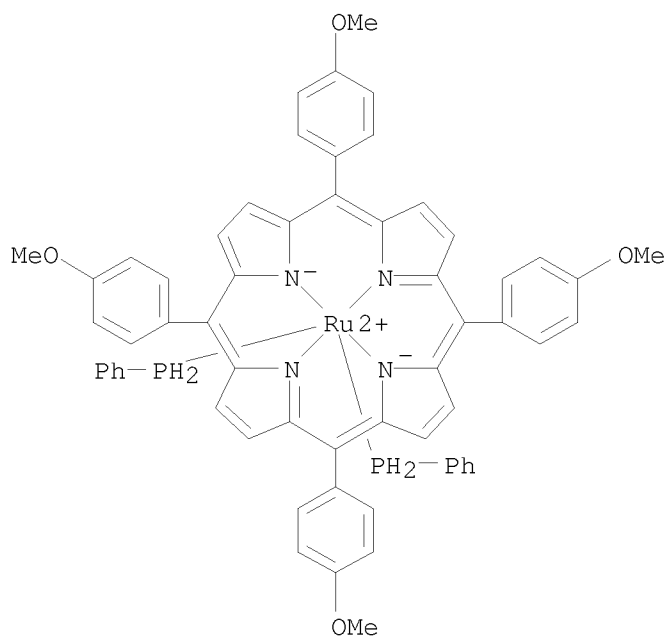


RN 853194-48-6 CAPLUS
 CN Ruthenium, bis(phenylphosphine) [5,10,15,20-tetrakis(4-chlorophenyl)-21H,23H-porphinato(2-)-κN21,κN22,κN23,κN24]-, (OC-6-12)- (9CI) (CA INDEX NAME)



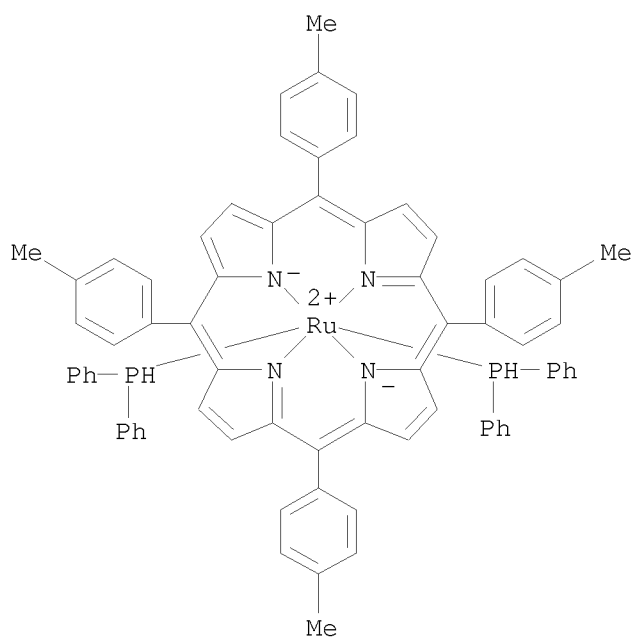
RN 853194-49-7 CAPLUS
 CN Ruthenium, bis(phenylphosphine) [5,10,15,20-tetrakis(4-methoxyphenyl)-

21H,23H-porphinato(2-)-κN21,κN22,κN23,κN24]-,
(OC-6-12)- (9CI) (CA INDEX NAME)



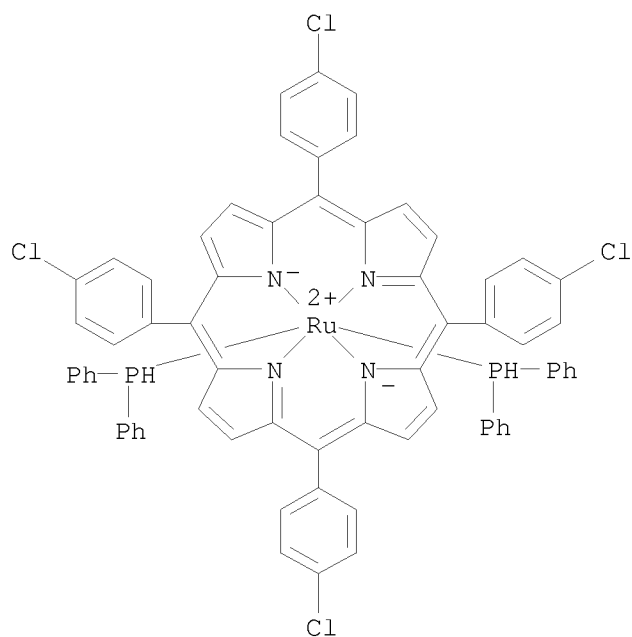
RN 853194-51-1 CAPLUS

CN Ruthenium, bis(diphenylphosphine) [5,10,15,20-tetrakis(4-methylphenyl)-
21H,23H-porphinato(2-)-κN21,κN22,κN23,κN24]-,
(OC-6-12)- (9CI) (CA INDEX NAME)



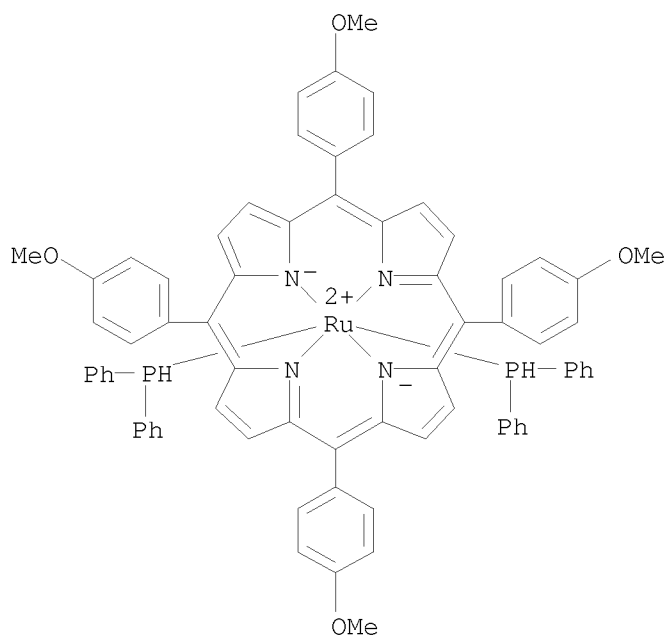
RN 853194-52-2 CAPLUS

CN Ruthenium, bis(diphenylphosphine) [5,10,15,20-tetrakis(4-chlorophenyl)-
21H,23H-porphinato(2-)-κN21,κN22,κN23,κN24]-,
(OC-6-12)- (9CI) (CA INDEX NAME)



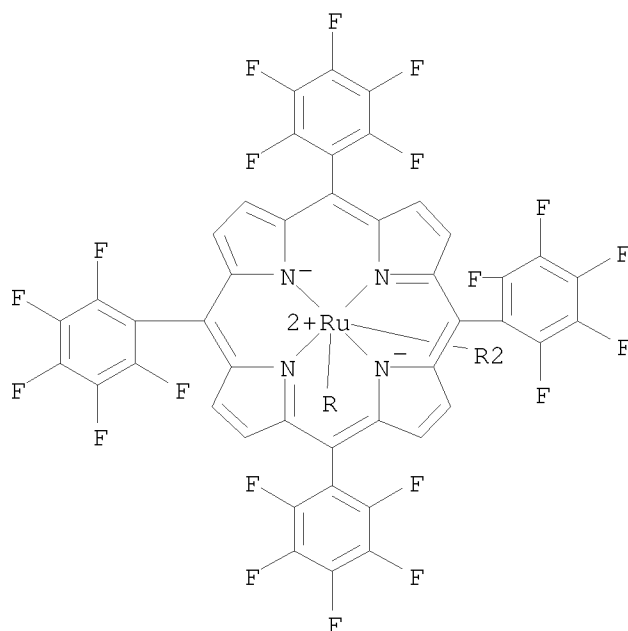
RN 853194-53-3 CAPLUS

CN Ruthenium, bis(diphenylphosphine) [5,10,15,20-tetrakis(4-methoxyphenyl)-
21H,23H-porphinato(2-)-κN21,κN22,κN23,κN24]-,
(OC-6-12)- (9CI) (CA INDEX NAME)

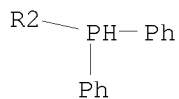
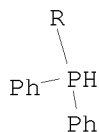


IT 853194-54-4P
 RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); PROC (Process)
 (preparation, crystal structure, and cyclic voltammetry)
 RN 853194-54-4 CAPLUS
 CN Ruthenium, bis(diphenylphosphine) [5,10,15,20-tetrakis(pentafluorophenyl)-21H,23H-porphinato(2-)-κN21,κN22,κN23,κN24]-, (OC-6-12)- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



REFERENCE COUNT: 115 THERE ARE 115 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE REFORMAT

L6 ANSWER 15 OF 72 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 2004:733163 CAPLUS
 DOCUMENT NUMBER: 141:418874
 TITLE: Quantum electron tunneling in flavin-porphyrin hetero-type Langmuir-Blodgett films
 AUTHOR(S): Isoda, Satoru; Akiyama, Kouichi; Nishikawa, Satoshi; Ueyama, Satoshi; Miyasaka, Hiroshi; Okada, Tadashi
 CORPORATE SOURCE: Mitsubishi Electric Corporation, Advanced Technology R&D Center, 8-1-1, Tsukaguchi-Honmachi, Amagasaki,

SOURCE: Hyogo, 661-8661, Japan
Thin Solid Films (2004), 466(1-2), 285-290
CODEN: THSFAP; ISSN: 0040-6090

PUBLISHER: Elsevier B.V.

DOCUMENT TYPE: Journal

LANGUAGE: English

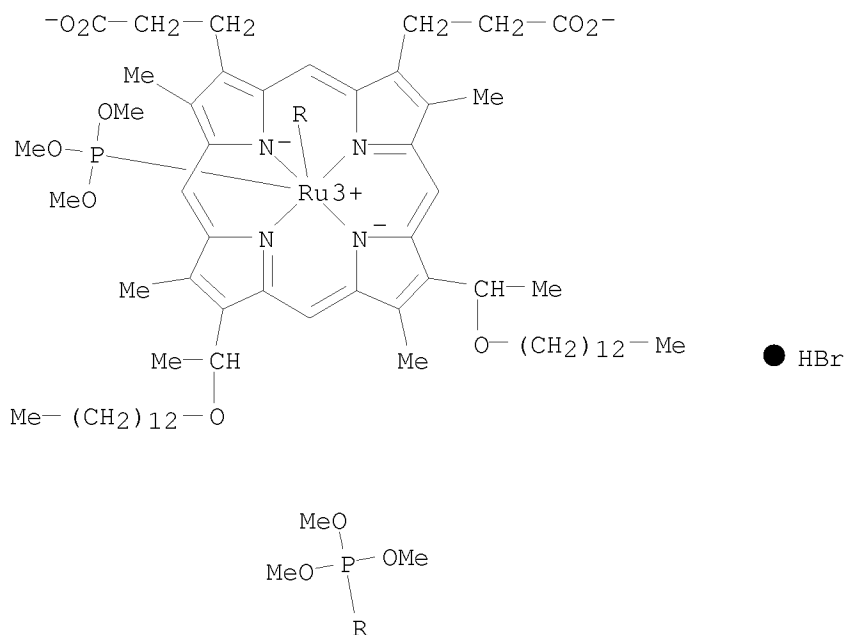
AB Photoinduced electron transfer in flavin-porphyrin hetero-type
Langmuir-Blodgett (LB) films and its temperature dependence were investigated
by means of the photocurrent measurements and the transient fluorometry.
From 10 K to room temperature, transient photocurrent in sub-nanosecond time
region was found to be independent of the temperature for a
metal-insulator-metal device composed of the hetero-type LB films with a
flavin-porphyrin mol. heterojunction (MHJ). This transient photocurrent
was attributed to the charge separation (CS) process from the photoexcited
flavin to the porphyrin at the MHJ on the basis of the temperature dependence
of the fluorescence decay profiles of the excited flavin. By integrating
these results with UV-visible absorption spectra, it was deduced that the
fast temperature-independent CS process at the flavin-porphyrin MHJ was mainly
due to the quantum electron tunneling regulated by high-frequency quantum
modes of intramol. vibrations.

IT 151893-04-8
RL: DEV (Device component use); USES (Uses)
(quantum electron tunneling in flavin-porphyrin hetero-type
Langmuir-Blodgett films)

RN 151893-04-8 CAPLUS

CN Ruthenate(1-), [3,7,12,17-tetramethyl-8,13-bis[1-(tridecyloxy)ethyl]-
21H,23H-porphine-2,18-dipropanoato(4-)-
κN21,κN22,κN23,κN24]bis(trimethyl
phosphite-κP)-, hydrogen, monohydrobromide, (OC-6-13)- (9CI) (CA
INDEX NAME)

PAGE 1-A



PAGE 2-A

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REFERENCE COUNT: 24 THERE ARE 24 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 16 OF 72 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2004:644219 CAPLUS

DOCUMENT NUMBER: 141:324621

TITLE: Ru(II) and Rh(III) porphyrin complexes of primary phosphine-substituted porphyrins

AUTHOR(S): Stulz, Eugen; Maue, Michael; Scott, Sonya M.; Mann, Brian E.; Sanders, Jeremy K. M.

CORPORATE SOURCE: Department of Chemistry, University of Basel, Basel, Switz.

SOURCE: New Journal of Chemistry (2004), 28(8), 1066-1072
CODEN: NJCHE5; ISSN: 1144-0546

PUBLISHER: Royal Society of Chemistry

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 141:324621

AB Primary alkynyl phosphine porphyrins were prepared by AlHCl_2 reduction of the corresponding alkynyl phosphonates. Dephosphorylation of the alkyne proved to be a major side reaction. Using LiAlH_4 as reducing agent, the alkyne is partially reduced to give the trans-alkenyl phosphine

selectively. The primary phosphines coordinate to both ruthenium(II) and rhodium(III) porphyrins and readily form bis-phosphine complexes. The ^1H and ^{31}P NMR spectra for the ruthenium complexes show a pattern characteristic of an $[\text{AX}_2]_2$ spin system with an unusually large 2JPP coupling constant of 620.6 Hz. The IR spectrum of $(\text{PAPH}_2)\text{Ru}(\text{CO})(\text{porphyrin})$ (PAPH_2 = phenylacetylenylphosphine) indicates weak σ -donor properties of the ligand. In contrast to the corresponding tertiary phosphine complexes, the bis-phosphine complexes with both ruthenium(II) and rhodium(III) porphyrins are more stable than the mono-phosphine complexes, as judged by NMR spectroscopy, and they can also be detected in the gas phase by LDI-TOF MS. In all cases the complexes could not be isolated and they degrade within hours at ambient temps. when kept in solution. These compds. may therefore not be suitable for the construction of larger multiporphyrin systems, but their accessibility makes it possible to study their coordination behavior with other transition metals.

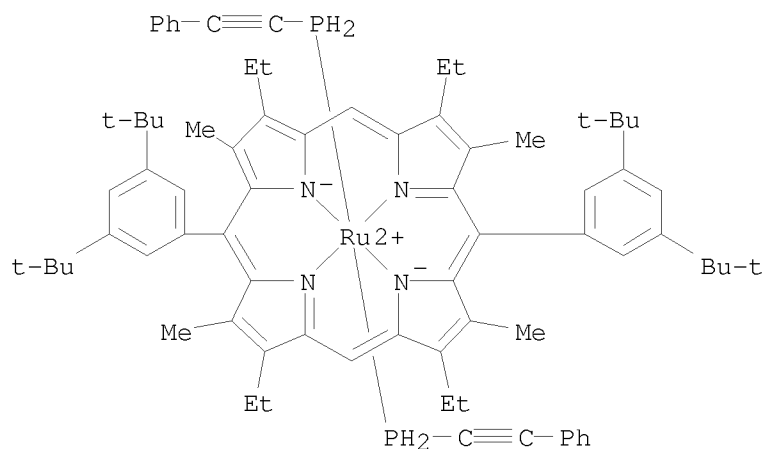
IT 767352-19-2P 767352-21-6P

RL: SPN (Synthetic preparation); PREP (Preparation)

(adduct formation of ruthenium and rhodium porphyrinato complexes with nickel phosphinoethynylphenyl-substituted porphyrinato complexes or phenylethynylphosphine)

RN 767352-19-2 CAPLUS

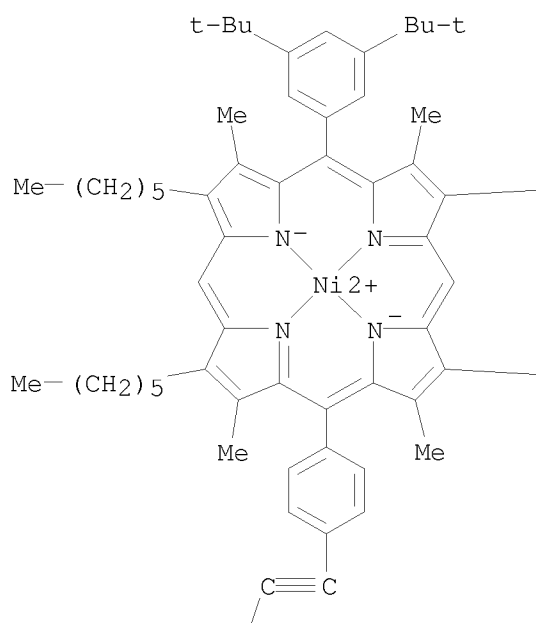
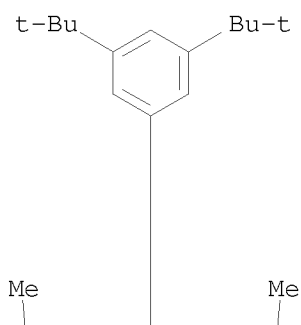
CN Ruthenium, [5,15-bis[3,5-bis(1,1-dimethylethyl)phenyl]-2,8,12,18-tetraethyl-3,7,13,17-tetramethyl-21H,23H-porphinato(2-)- $\kappa\text{N}21,\kappa\text{N}22,\kappa\text{N}23,\kappa\text{N}24$]bis[(phenylethynyl)phosphine]-, (OC-6-12)- (9CI) (CA INDEX NAME)



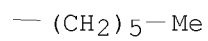
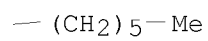
RN 767352-21-6 CAPLUS

CN Ruthenium, [5,15-bis[3,5-bis(1,1-dimethylethyl)phenyl]-2,8,12,18-tetraethyl-3,7,13,17-tetramethyl-21H,23H-porphinato(2-)- $\kappa\text{N}21,\kappa\text{N}22,\kappa\text{N}23,\kappa\text{N}24$]bis[μ -[5-[3,5-bis(1,1-dimethylethyl)phenyl]-2,8,12,18-tetrahexyl-3,7,13,17-tetramethyl-15-[4-[(phosphino- κP)ethynyl]phenyl]-21H,23H-porphinato(2-)- $\kappa\text{N}21,\kappa\text{N}22,\kappa\text{N}23,\kappa\text{N}24$]]bis(nickel)- (9CI) (CA INDEX NAME)

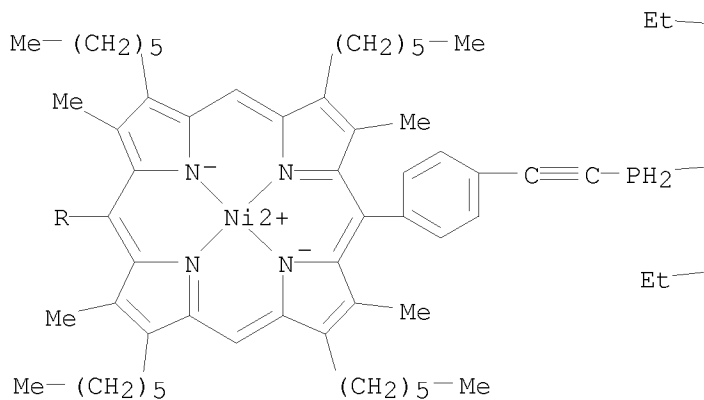
PAGE 1-B



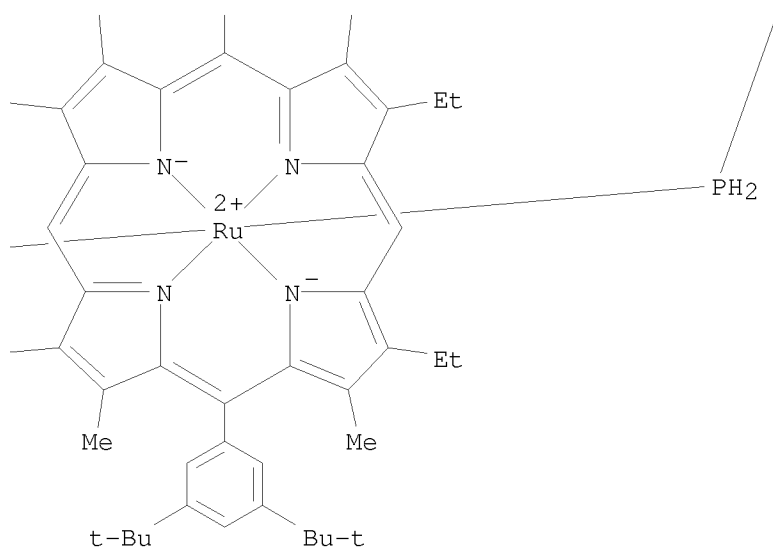
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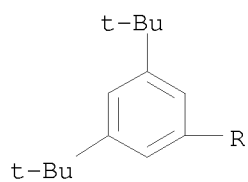
PAGE 2-A



PAGE 2-B



PAGE 3-A



REFERENCE COUNT: 51 THERE ARE 51 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 17 OF 72 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2004:464831 CAPLUS

DOCUMENT NUMBER: 141:182784

TITLE: Photoelectric properties based on electric field modulation of photoinduced electron transfer processes in flavin-porphyrin hetero-type Langmuir-Blodgett films

AUTHOR(S): Isoda, Satoru; Hanazato, Yoshio; Ueyama, Satoshi; Nishikawa, Satoshi; Akiyama, Kouich

CORPORATE SOURCE: Advanced Technology R&D Center, Mitsubishi Electric Corporation, Hyogo, 661-8661, Japan

SOURCE: Japanese Journal of Applied Physics, Part 1: Regular Papers, Short Notes & Review Papers (2004), 43(5A), 2774-2778

CODEN: JAPNDE

PUBLISHER: Japan Society of Applied Physics

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Metal-insulator-metal devices composed of flavin-porphyrin hetero-type Langmuir-Blodgett films showed highly efficient photoelec. properties mainly attributable to the fast charge separation process at a mol. heterojunction (MHJ) between flavin and porphyrin. The photoelec. properties of the MHJ devices showed different characteristics depending on the redox state of the central metal of porphyrin, i.e., Ru(III) or Ru(II). The rectifying behavior of the photocurrent was observed for the Ru(III)-MHJ device, whereas the Ru(II)-MHJ device did not show the rectifying behavior. The rectifying behavior was mainly controlled by the elec. field dependence of the charge recombination process. Also, a bell-shaped photocurrent-voltage curve was observed for the Ru(II)-MHJ device. The mechanism underlying the neg. resistance might be based on the elec. field dependence of the charge shift process in flavin monolayers controlled by the inverted region mechanism of the Marcus electron transfer theory.

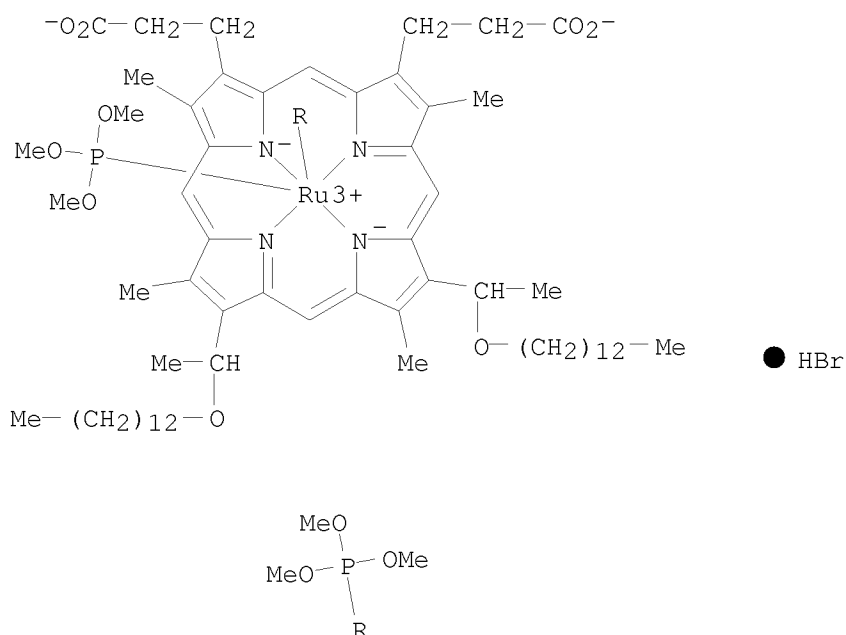
IT 151893-04-8

RL: PRP (Properties); RCT (Reactant); RACT (Reactant or reagent) (photoelec. properties based on elec. field modulation of photoinduced electron transfer processes in flavin-porphyrin hetero-type Langmuir-Blodgett films)

RN 151893-04-8 CAPLUS

CN Ruthenate(1-), [3,7,12,17-tetramethyl-8,13-bis[1-(tridecyloxy)ethyl]-21H,23H-porphine-2,18-dipropanoate(4-)-κN21,κN22,κN23,κN24]bis(trimethyl phosphite-κP)-, hydrogen, monohydrobromide, (OC-6-13)- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A

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REFERENCE COUNT: 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 18 OF 72 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2004:299335 CAPLUS

DOCUMENT NUMBER: 141:31985

TITLE: Electric-field-induced fluorescence quenching in a metal-insulator-metal device composed of flavin-porphyrin hetero-type Langmuir-Blodgett films

AUTHOR(S): Isoda, Satoru; Hanazato, Yoshio; Ueyama, Satoshi; Nishikawa, Satoshi; Akiyama, Kouichi

CORPORATE SOURCE: Advanced Technology R&D Center, Mitsubishi Electric Corporation, Hyogo, 661-8661, Japan

SOURCE: Japanese Journal of Applied Physics, Part 2: Letters & Express Letters (2004), 43(2B), L253-L255
CODEN: JAPL D8

PUBLISHER: Japan Society of Applied Physics

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Photoinduced electron transfer processes in flavin-porphyrin hetero-type Langmuir-Blodgett films were investigated in terms of the elec.-field-induced quenching of flavin fluorescence. The dependence of

the fluorescence quenching on the applied voltage corresponded well with the rectifying photocurrent-voltage characteristics. The rate of fluorescence quenching, which is approx. 1 min⁻¹, was found to be slow. It was concluded that the fluorescence quenching was attributed to reduced flavin mols. in the flavin monolayers generated by the electron transport process after the charge separation

IT 151893-04-8

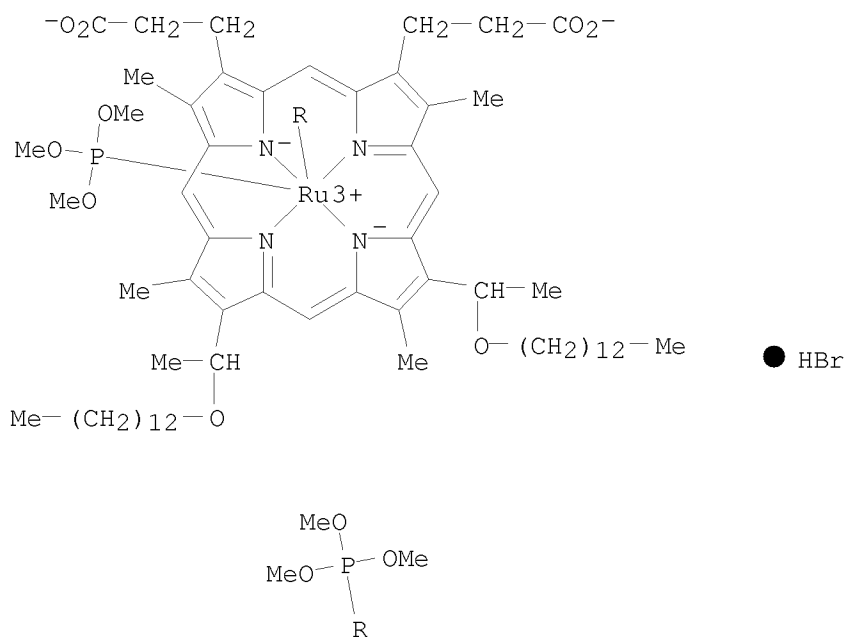
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)

(elec.-field-induced fluorescence quenching in metal-insulator-metal device composed of flavin-porphyrin hetero-type Langmuir-Blodgett films)

RN 151893-04-8 CAPLUS

CN Ruthenate(1-), [3,7,12,17-tetramethyl-8,13-bis[1-(tridecyloxy)ethyl]-21H,23H-porphine-2,18-dipropanoato(4-)-κN21,κN22,κN23,κN24]bis(trimethyl phosphite-κP)-, hydrogen, monohydrobromide, (OC-6-13)- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A

REFERENCE COUNT:

14

THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 19 OF 72 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2004:278076 CAPLUS

DOCUMENT NUMBER: 141:46356

TITLE: Supported organometallic complexes part 39: cationic diamine(ether-phosphine)ruthenium(II) complexes as precursors for the hydrogenation of trans-4-phenyl-3-butene-2-one

AUTHOR(S): Warad, Ismail; Eichele, Klaus; Mayer, Hermann A.; Lindner, Ekkehard

CORPORATE SOURCE: Institut fur Anorganische Chemie der Universitat Tubingen, Tubingen, D-72076, Germany

SOURCE: Inorganica Chimica Acta (2004), 357(6), 1847-1853
CODEN: ICHAA3; ISSN: 0020-1693

PUBLISHER: Elsevier Science B.V.

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 141:46356

AB Treatment of $\text{RuCl}_2(\eta^1\text{-Ph}_2\text{PCH}_2\text{CH}_2\text{OCH}_3)_2\text{L}$ (1; L = 2,2-dimethylethylenediamine, trans-1,2-cyclohexanediamine, o-phenylenediamine, (R,R)- and (S,S)-1,2-diphenylethylenediamine, 2,2-dimethyl-1,3-propanediamine, 2,2'-bipyridine) with one equivalent of AgX (X = OTf, BF_4) in CH_2Cl_2 gave the monocationic Ru(II) complexes $[\text{RuCl}(\eta^1\text{-Ph}_2\text{PCH}_2\text{CH}_2\text{OCH}_3)(\eta^2\text{-Ph}_2\text{PCH}_2\text{CH}_2\text{OCH}_3)\text{L}]\text{X}$ (2). These complexes were characterized by NMR, and mass spectroscopy as well as by elemental analyses, 2 (L = 2,2-dimethylethylenediamine) addnl. by an x-ray structural anal. Complex 2 (L = 2,2-dimethylethylenediamine) crystallizes in the monoclinic space group C2/c with Z = 8. The monocationic and neutral complexes were applied as catalysts in the selective hydrogenation of trans-4-phenyl-3-butene-2-one. With the exception of (L = o-phenylenediamine, 2,2'-bipyridine) and the resp. 2 complexes all catalysts showed high activities and selectivities toward the hydrogenation of the carbonyl group under mild conditions. However, the activity of the cationic catalysts is only half of that of their neutral congeners.

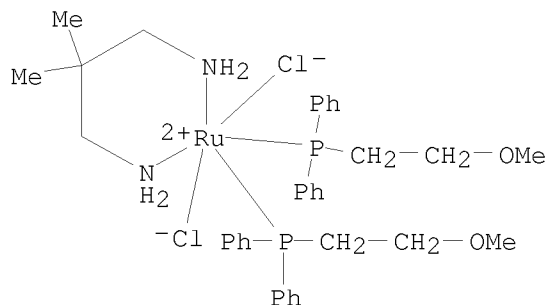
IT 620945-37-1

RL: RCT (Reactant); RACT (Reactant or reagent)

(reactant for preparation of ruthenium methoxyethylphosphine diamine complexes with chelated methoxyethylphosphine)

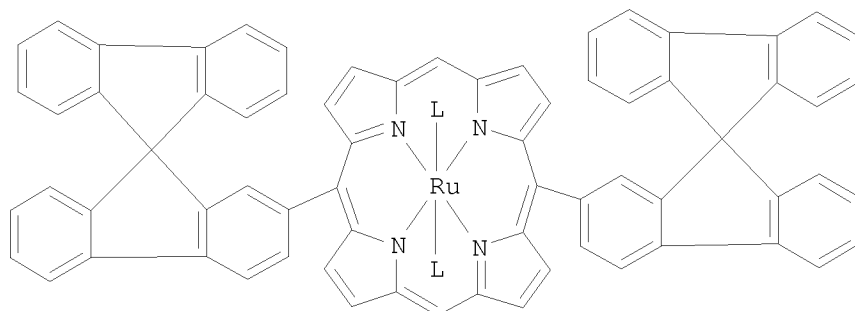
RN 620945-37-1 CAPLUS

CN Ruthenium, dichloro(2,2-dimethyl-1,3-propanediamine- $\kappa\text{N}1,\kappa\text{N}3$)bis[(2-methoxyethyl)diphenylphosphine- κP]-, (OC-6-13)- (CA INDEX NAME)



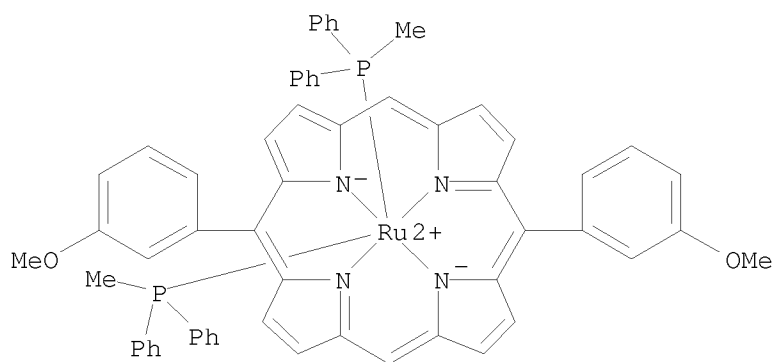
REFERENCE COUNT: 24 THERE ARE 24 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 20 OF 72 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 2003:977071 CAPLUS
 DOCUMENT NUMBER: 140:245404
 TITLE: Synthesis and stereochemical studies of di and tetra 9,9'-spirobifluorene porphyrins: new building blocks for catalytic material
 AUTHOR(S): Poriel, Cyril; Ferrand, Yann; Juillard, Sandrine; Le Maux, Paul; Simonneaux, Gerard
 CORPORATE SOURCE: Laboratoire de Chimie Organometallique et Biologique, UMR CNRS 6509 Universite de Rennes 1, Rennes, 35042, Fr.
 SOURCE: Tetrahedron (2004), 60(1), 145-158
 CODEN: TETRAB; ISSN: 0040-4020
 PUBLISHER: Elsevier Science B.V.
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 140:245404
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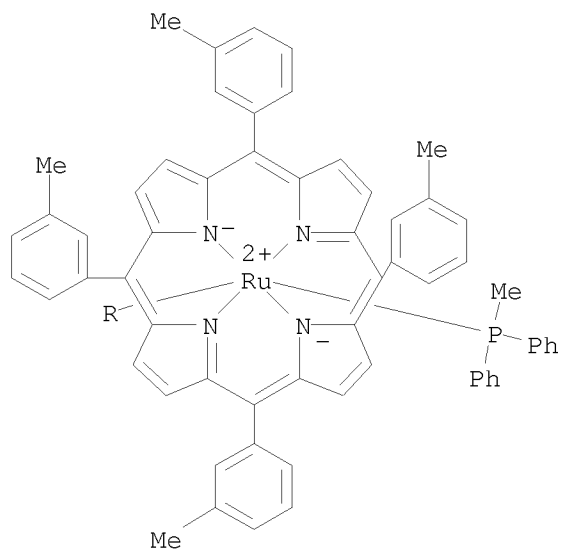
I

AB The authors report the synthesis and stereochem. properties of a new class of mols. containing a covalently-linked porphyrin and spiro-9,9'-bifluorene derivs. such as (I, L = CO, PMePh₂, CNBut). The large spiro substituents hinder rotation about the meso position to give atropisomers which can be detected by ¹H NMR after phosphine or isocyanide complexation to the Ru spiroporphyrins.
 IT 664325-95-5P 664326-03-8P
 RL: SPN (Synthetic preparation); PREP (Preparation) (preparation of)
 RN 664325-95-5 CAPLUS
 CN Ruthenium, [5,15-bis(3-methoxyphenyl)-21H,23H-porphinato(2-)-κN21,κN22,κN23,κN24]bis(methyldiphenylphosphine)-, (OC-6-12)- (CA INDEX NAME)

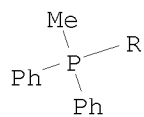


RN 664326-03-8 CAPLUS
 CN Ruthenium, bis(methyldiphenylphosphine) [5,10,15,20-tetrakis(3-methylphenyl)-21H,23H-porphinato(2-)- κ N21, κ N22, κ N23, κ N24]-, (OC-6-12)- (CA INDEX NAME)

PAGE 1-A



PAGE 2-A

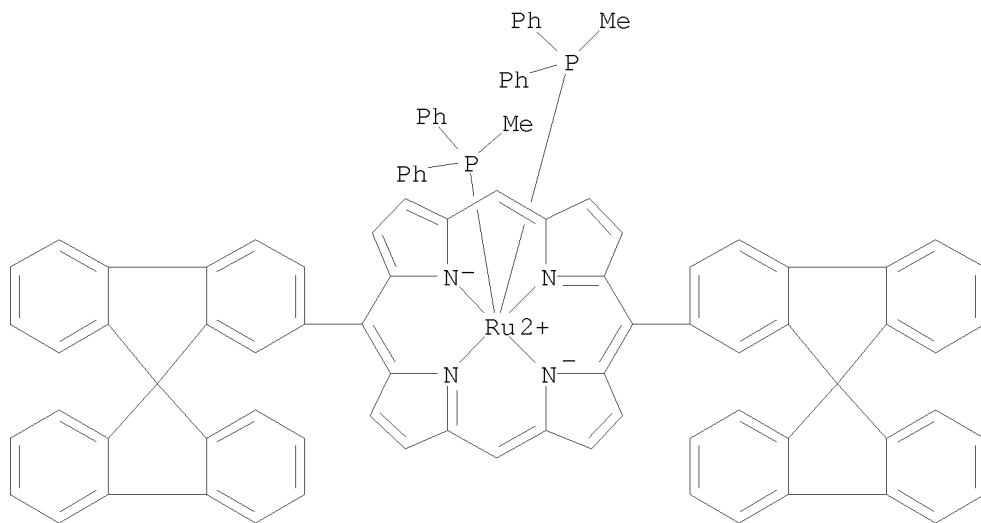


IT 515813-11-3P 664325-99-9P 664326-01-6P
 RL: SPN (Synthetic preparation); PREP (Preparation)

(preparation of atropisomers)

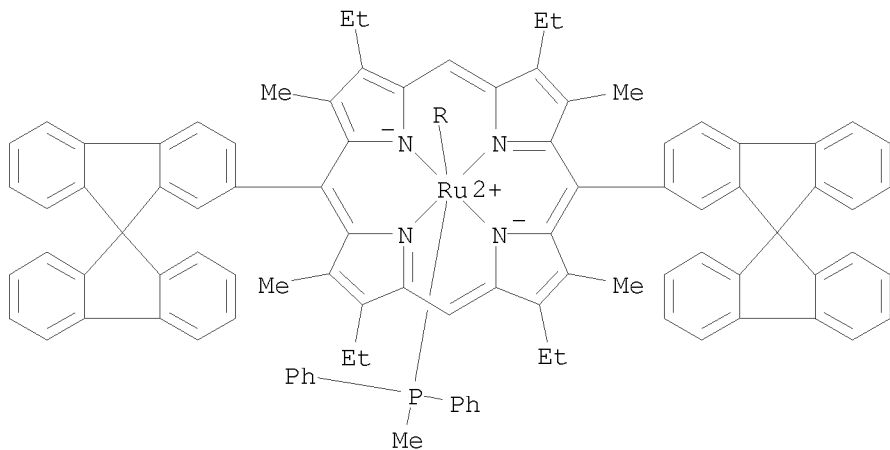
RN 515813-11-3 CAPLUS

CN Ruthenium, [5,15-bis(9,9'-spirobi[9H-fluoren]-2-yl)-21H,23H-porphinato(2-)-
κN21,κN22,κN23,κN24]bis(methyldiphenylphosphine)-,
(OC-6-12)-(9CI) (CA INDEX NAME)



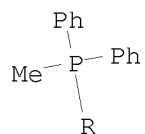
RN 664325-99-9 CAPLUS

CN Ruthenium, bis(methyldiphenylphosphine) [2,8,12,18-tetraethyl-3,7,13,17-tetramethyl-5,15-bis(9,9'-spirobi[9H-fluoren]-2-yl)-21H,23H-porphinato(2-)-
κN21,κN22,κN23,κN24]-, (OC-6-12)-(9CI) (CA INDEX
NAME)



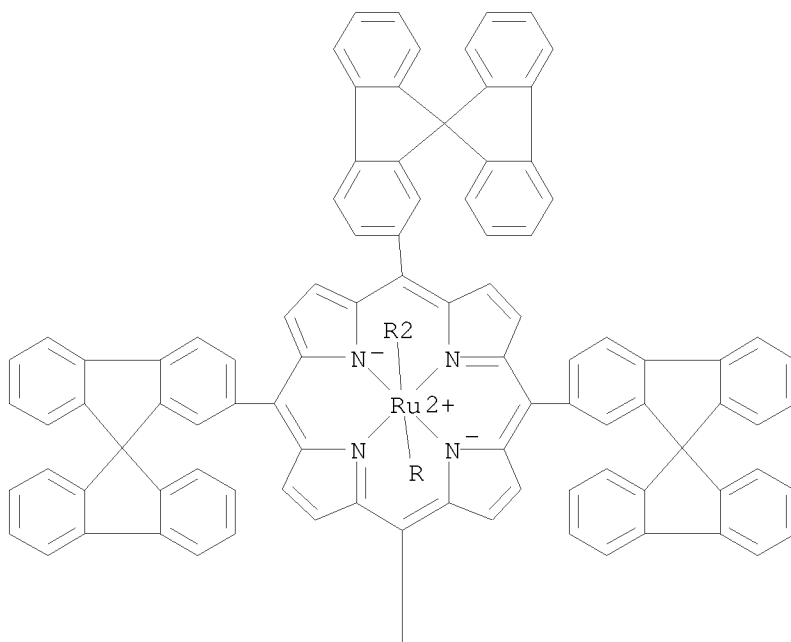
PAGE 1-A

PAGE 2-A

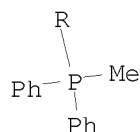
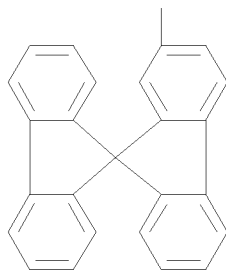


RN 664326-01-6 CAPLUS
 CN Ruthenium, bis(methyldiphenylphosphine) [5,10,15,20-tetrakis(9,9'-
 spirobi[9H-fluoren]-2-yl)-21H,23H-porphinato(2-)-
 κN21,κN22,κN23,κN24]-, (OC-6-12)- (9CI) (CA INDEX
 NAME)

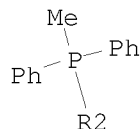
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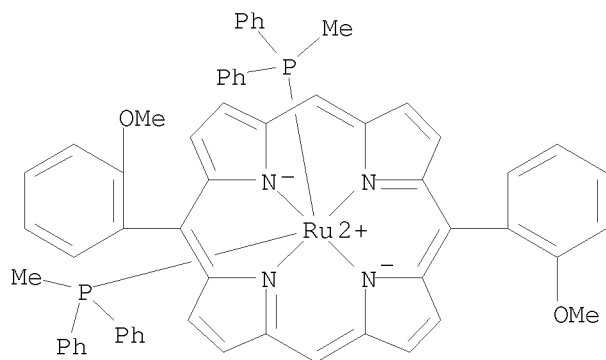
PAGE 2-A



PAGE 3-A

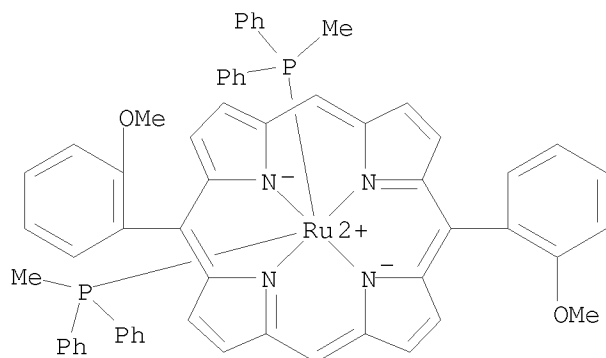


IT 515813-13-5P 516476-21-4P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of single atropisomer)
 RN 515813-13-5 CAPLUS
 CN Ruthenium, [5,15-bis(2-methoxyphenyl)-21H,23H-porphinato(2-)-
 κN21,κN22,κN23,κN24]bis(methyldiphenylphosphine)-,
 stereoisomer (9CI) (CA INDEX NAME)



RN 516476-21-4 CAPLUS
 CN Ruthenium, [5,15-bis(2-methoxyphenyl)-21H,23H-porphinato(2-)-
 κN21,κN22,κN23,κN24]bis(methyldiphenylphosphine)-,

stereoisomer (9CI) (CA INDEX NAME)



REFERENCE COUNT: 39 THERE ARE 39 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 21 OF 72 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 2003:727499 CAPLUS
 DOCUMENT NUMBER: 139:316052
 TITLE: Construction of multiporphyrin arrays using ruthenium and rhodium coordination to phosphines
 AUTHOR(S): Stulz, Eugen; Scott, Sonya M.; Ng, Yiu-Fai; Bond, Andrew D.; Teat, Simon J.; Darling, Scott L.; Feeder, Neil; Sanders, Jeremy K. M.
 CORPORATE SOURCE: University Chemical Laboratory, University of Cambridge, Cambridge, CB2 1EW, UK
 SOURCE: Inorganic Chemistry (2003), 42(20), 6564-6574
 CODEN: INOCAJ; ISSN: 0020-1669
 PUBLISHER: American Chemical Society
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 139:316052

AB The synthesis of linear multiporphyrin arrays with mono- and bisphosphine-substituted porphyrins as ligand donors and Ru(II) or Rh(III) porphyrins as ligand acceptors is described. With appropriate amts. of the building blocks mixed, linear dimeric and trimeric arrays were synthesized and analyzed by ¹H NMR and ³¹P NMR spectroscopy. The Ru/Rh acceptor porphyrins can be located either at the periphery or in the center of the array. Likewise, the monophosphine porphyrins can be positioned at the periphery, thus allowing a high degree of freedom in the overall composition of the arrays. This way, both donor and acceptor porphyrins can act as chain extenders or terminators. One of the trimeric complexes with two Ni and one Ru porphyrin also was analyzed by x-ray crystallog. Attempts also were made to synthesize higher order arrays by mixing appropriate amts. of the porphyrins; however, from the NMR data it cannot be concluded if monodisperse five, seven, or nine porphyrin arrays are present or if the solns. are composed of a statistical mixture of smaller and larger arrays.

IT 609799-00-0
 RL: PRP (Properties)
 (crystal structure of)
 RN 609799-00-0 CAPLUS

CN Ruthenium, [5,15-bis[3,5-bis(1,1-dimethylethyl)phenyl]-2,8,12,18-tetraethyl-3,7,13,17-tetramethyl-21H,23H-porphinato(2-)- κ N21, κ N22, κ N23, κ N24]bis[μ -[5-[3,5-bis(1,1-dimethylethyl)phenyl]-15-[4-[(diphenylphosphino- κ P)ethynyl]phenyl]-2,8,12,18-tetrahexyl-3,7,13,17-tetramethyl-21H,23H-porphinato(2-)- κ N21, κ N22, κ N23, κ N24]]bis(nickel)-, compd. with trichloromethane (1:2) (9CI) (CA INDEX NAME)

CM 1

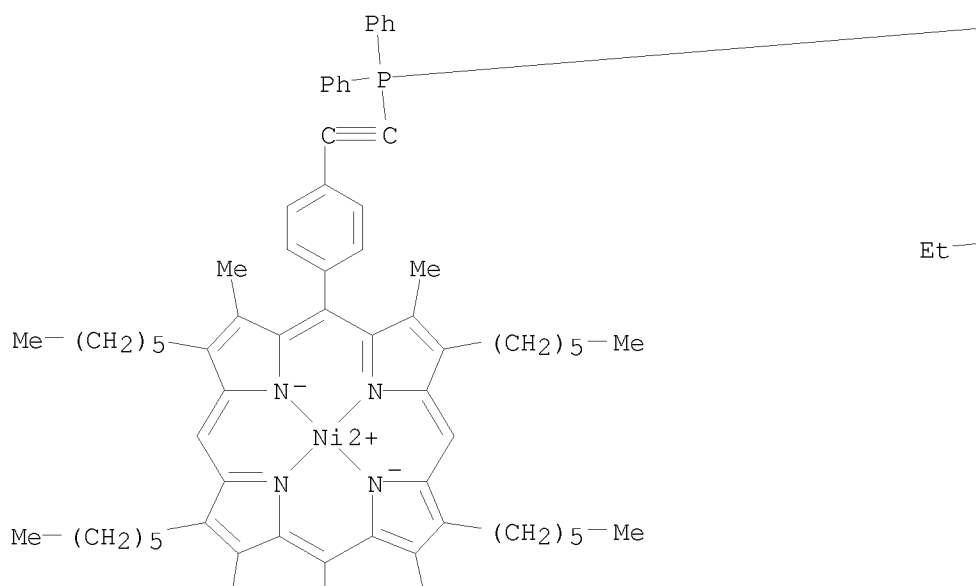
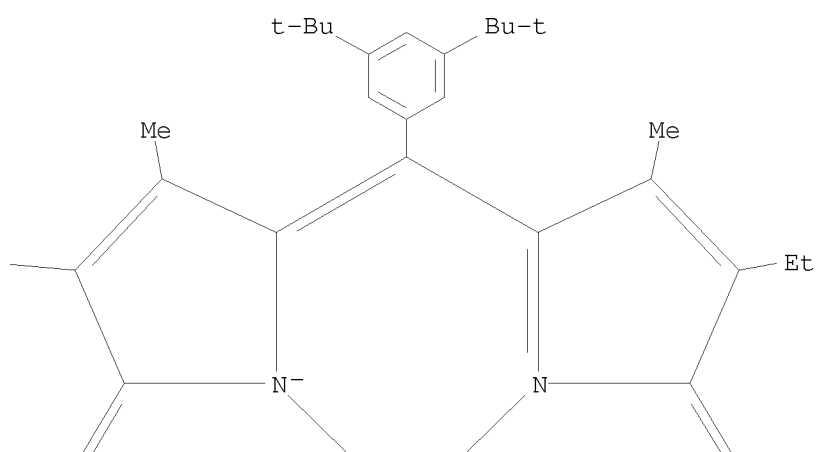
CRN 288613-61-6

CMF C224 H278 N12 Ni2 P2 Ru

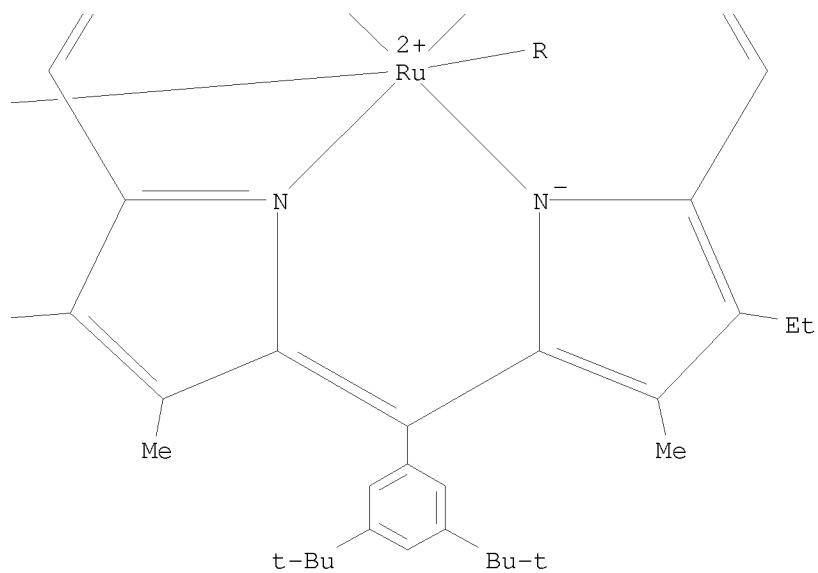
CCI CCS

PAGE 1-A

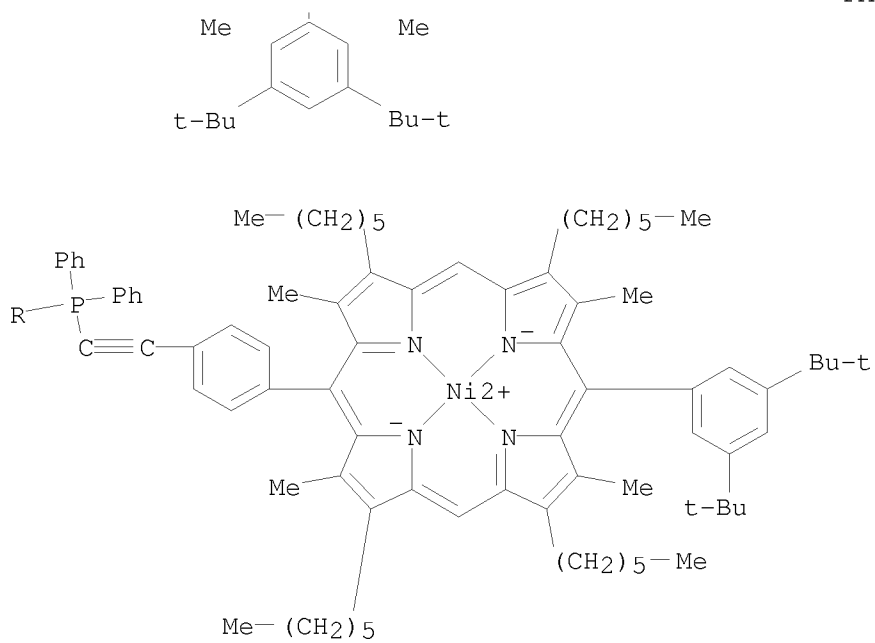
Et—



PAGE 2-B

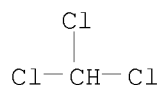


PAGE 3-A



CM 2

CRN 67-66-3
CMF C H Cl3



REFERENCE COUNT: 25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 22 OF 72 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2003:664682 CAPLUS

DOCUMENT NUMBER: 140:11206

TITLE: Photoelectric properties based on photo-induced electron transfer processes in flavin-porphyrin hetero-type Langmuir-Blodgett films

AUTHOR(S): Isoda, Satoru; Hanazato, Yoshio; Akiyama, Kouichi; Nishikawa, Satoshi; Ueyama, Satoshi

CORPORATE SOURCE: Advanced Technology R&D Center, Mitsubishi Electric Corporation, Amagasaki, Hyogo, 661-8661, Japan

SOURCE: Thin Solid Films (2003), 441(1,2), 277-283

CODEN: THSFAP; ISSN: 0040-6090

PUBLISHER: Elsevier Science B.V.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The photo-induced electron transfer processes were studied in flavin-porphyrin hetero-type Langmuir-Blodgett (LB) films to clarify the photoelec. properties of metal-insulator-metal (MIM) devices composed of LB films sandwiched within aluminum electrodes. A hetero-type MIM device with a flavin and porphyrin mol. heterojunction (MHJ) showed highly efficient photovoltaic effects and high photocond. In contrast, a homo-type MIM device with flavin and porphyrin LB films exhibited low photovoltaic effects and a short-circuit photocurrent d. less than a tenth of that of the MHJ device. Also, the transient photocurrent of the MHJ device showed that the time constant for the charge separation (CS) process in the MHJ device was of a sub-nanosecond order. This was more than two orders of magnitude shorter than the time constant for the CS process in the flavin homo-type MIM device. The highly efficient photoelec. properties of the MHJ device were mainly attributable to the fast CS process from the photoexcited flavin to the porphyrin at the MHJ. Considering the long distance between the flavin and porphyrin at the MHJ and the moderate free energy difference, the mechanism underlying the fast CS process might be based on the quantum electron tunneling.

IT 151893-04-8

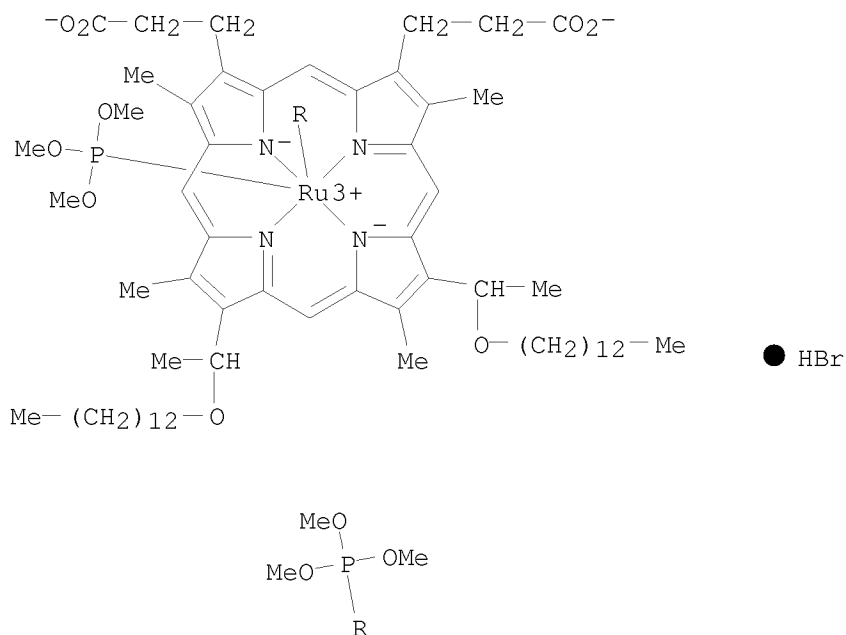
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)

(photoelec. properties based on photo-induced electron transfer processes in flavin-porphyrin Langmuir-Blodgett films in MIM devices)

RN 151893-04-8 CAPLUS

CN Ruthenate(1-), [3,7,12,17-tetramethyl-8,13-bis[1-(tridecyloxy)ethyl]-21H,23H-porphine-2,18-dipropanoato(4-)-κN21,κN22,κN23,κN24]bis(trimethyl phosphite-κP)-, hydrogen, monohydrobromide, (OC-6-13)- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A

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REFERENCE COUNT: 30 THERE ARE 30 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 23 OF 72 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 2003:537742 CAPLUS
 DOCUMENT NUMBER: 139:373625
 TITLE: Bis(methoxyethyldimethylphosphine)ruthenium(II) complexes as transfer hydrogenation catalysts
 AUTHOR(S): Lu, Zhong-Lin; Eichele, Klaus; Warad, Ismail; Mayer, Hermann A.; Lindner, Ekkehard; Jiang, Zheng-jing; Schurig, Volker
 CORPORATE SOURCE: Inst. Anorganische Chemie, Tuebingen, Germany
 SOURCE: Zeitschrift fuer Anorganische und Allgemeine Chemie (2003), 629(7-8), 1308-1315
 CODEN: ZAACAB; ISSN: 0044-2313
 PUBLISHER: Wiley-VCH Verlag GmbH & Co. KGaA
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 139:373625
 AB Ten diamineruthenium(II) complexes containing the hemilabile (2-methoxyethyl)dimethylphosphine ligand, [Cl₂Ru(L)(η¹-Me₂PCH₂CH₂OMe)₂], were synthesized from the starting

materials Me₂PCH₂CH₂OMe, [Ru(COD)Cl₂]_n, and the resp. diamines L. The structure of [Cl₂Ru(1,2-diaminocyclohexane)(η¹-Me₂PCH₂CH₂OMe)₂] reveals that two chlorides are in trans position while in [Cl₂Ru(2,2'-bipyridine)(η¹-Me₂PCH₂CH₂OMe)₂] the two chlorides favor a cis configuration. Most of the complexes are highly catalytically active in the hydrogen transfer reduction of acetophenone. The replacement of Ph groups for Me functions in the ether-phosphine ruthenium(II) complexes resulted in a switch of the hydrogenation mechanism from direct hydrogenation to transfer hydrogenation. The reason is attributed to the better donor ability of Me groups compared to Ph substituents. Thus, the metal center becomes more electron-rich and inhibits the binding of dihydrogen to the ruthenium(II) complex fragment.

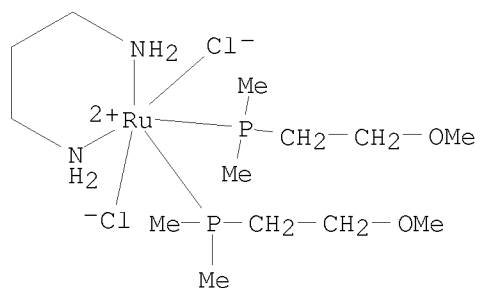
IT 618891-92-2P 618891-93-3P

RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)

(preparation and catalytic activity in transfer hydrogenation of acetophenone)

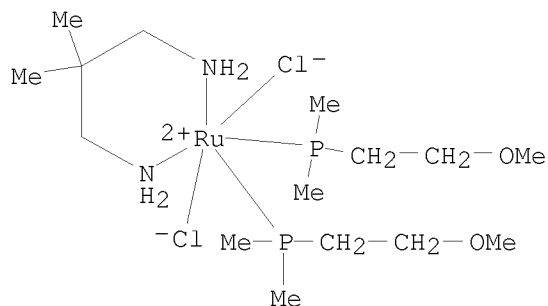
RN 618891-92-2 CAPLUS

CN Ruthenium, dichlorobis[(2-methoxyethyl)dimethylphosphine-κP](1,3-propanediamine-κN,κN')-, (OC-6-13)- (9CI) (CA INDEX NAME)



RN 618891-93-3 CAPLUS

CN Ruthenium, dichloro(2,2-dimethyl-1,3-propanediamine-κN,κN')bis[(2-methoxyethyl)dimethylphosphine-κP]-, (OC-6-13)- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 38 THERE ARE 38 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 24 OF 72 CAPLUS COPYRIGHT 2009 ACS on STN

10564902.trn

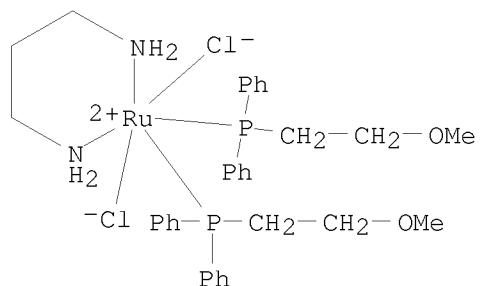
ACCESSION NUMBER: 2003:483146 CAPLUS
 DOCUMENT NUMBER: 139:373586
 TITLE: Supported organometallic complexes Part 34: synthesis and structures of an array of diamine(ether-phosphine)ruthenium(II) complexes and their application in the catalytic hydrogenation of trans-4-phenyl-3-butene-2-one
 AUTHOR(S): Lindner, Ekkehard; Warad, Ismail; Eichele, Klaus; Mayer, Hermann A.
 CORPORATE SOURCE: Institut fuer Anorganische Chemie der Universitaet Tuebingen, Tuebingen, D-72076, Germany
 SOURCE: Inorganica Chimica Acta (2003), 350, 49-56
 CODEN: ICHAA3; ISSN: 0020-1693
 PUBLISHER: Elsevier Science B.V.
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 139:373586

AB The novel diamine-bis(ether-phosphine)ruthenium(II) complexes $\text{Cl}_2\text{Ru}(\eta^1\text{-Ph}_2\text{PCH}_2\text{CH}_2\text{OCH}_3)_2(\text{diamine})_2$ (I) were obtained by reaction of equimolar amts. of $\text{Cl}_2\text{Ru}(\text{Ph}_2\text{PCH}_2\text{CH}_2\text{OCH}_3)_2$ (2) with the 11 diamines in good yields. X-ray structural studies of I (diamine = trans cyclohexanediamine, 2,2-dimethyl-1,3-propanediamine) show monoclinic unit cells with the space group $\text{P}2_1/\text{c}$. The octahedrally coordinated Ru atoms have each two trans-chlorides and cis-phosphines which is in agreement with NMR studies in solution. With the exception of I (diamine = 4-methyl-1,2-benzenediamine) the Ru complexes are highly catalytically active in the hydrogenation of the α,β -unsatd. ketone trans-4-phenyl-3-butene-2-one. In most cases the conversions and selectivities toward the formation of the unsatd. alc. trans-4-phenyl-3-butene-2-ol were 100% with high turnover frequencies under mild conditions.

IT 396130-64-6
 RL: CAT (Catalyst use); USES (Uses)
 (hydrogenation catalyst for trans-4-phenyl-3-butene-2-one)

RN 396130-64-6 CAPLUS

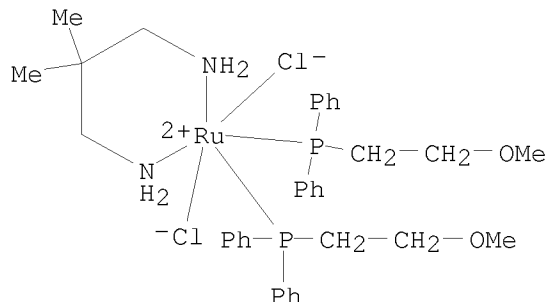
CN Ruthenium, dichlorobis[(2-methoxyethyl)diphenylphosphine- κP](1,3-propanediamine- $\kappa\text{N}1,\kappa\text{N}3$)-, (OC-6-13)- (CA INDEX NAME)



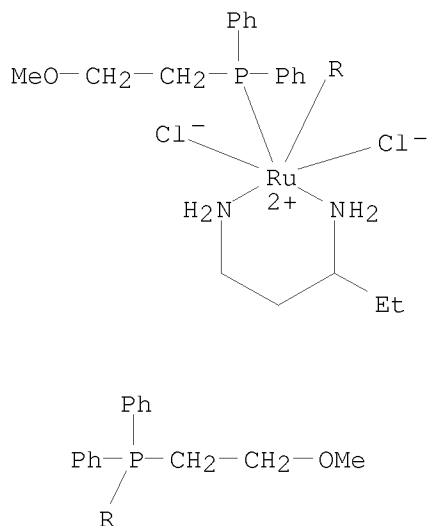
IT 620945-37-1P
 RL: CAT (Catalyst use); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
 (preparation and crystal structure as hydrogenation catalysts for trans-4-phenyl-3-butene-2-one)

RN 620945-37-1 CAPLUS

CN Ruthenium, dichloro(2,2-dimethyl-1,3-propanediamine- κ N1, κ N3)bis[(2-methoxyethyl)diphenylphosphine- κ P]-, (OC-6-13)- (CA INDEX NAME)



IT 620945-38-2P
 RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation);
 USES (Uses)
 (preparation of ruthenium ether phosphine diamine complexes as hydrogenation catalysts for trans-4-phenyl-3-butene-2-one)
 RN 620945-38-2 CAPLUS
 CN Ruthenium, dichlorobis[(2-methoxyethyl)diphenylphosphine- κ P](1,3-pentanediamine- κ N, κ N')-, (OC-6-14)- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 31 THERE ARE 31 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 25 OF 72 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 2003:54458 CAPLUS
 DOCUMENT NUMBER: 138:347923
 TITLE: Synthesis of new 9,9'-spirobifluorene porphyrins
 AUTHOR(S): Poriel, Cyril; Ferrand, Yann; Le Maux, Paul; Simonneaux, Gerard

CORPORATE SOURCE: Laboratoire de Chimie Organometallique et Biologique,
UMR CNRS 6509, Universite de Rennes 1, Rennes, 35042,
Fr.

SOURCE: Synlett (2003), (1), 71-74
CODEN: SYNLES; ISSN: 0936-5214

PUBLISHER: Georg Thieme Verlag

DOCUMENT TYPE: Journal

LANGUAGE: English

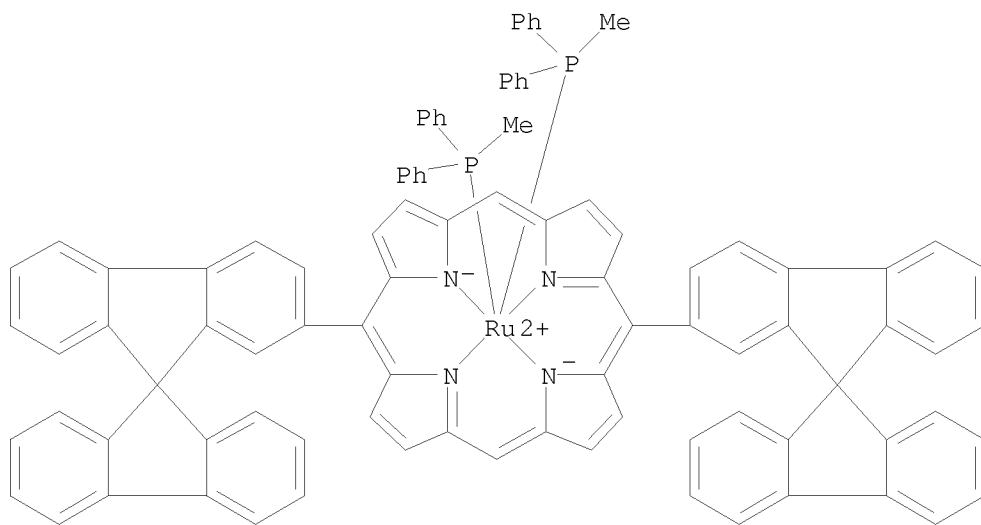
OTHER SOURCE(S): CASREACT 138:347923

AB The MacDonald [2+2] type condensation of meso-free dipyrromethane with
9,9'-spirobifluorene aldehyde yields new 5,15-dispiroporphyrins; the large
spiro substituents hinder rotation about the meso position to give two
atropisomers which can be detected by ¹H NMR after phosphine or isocyanide
complexation to the ruthenium spiroporphyrins.

IT 515813-11-3P
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(preparation and ¹H NMR evidence of atropisomerism)

RN 515813-11-3 CAPLUS

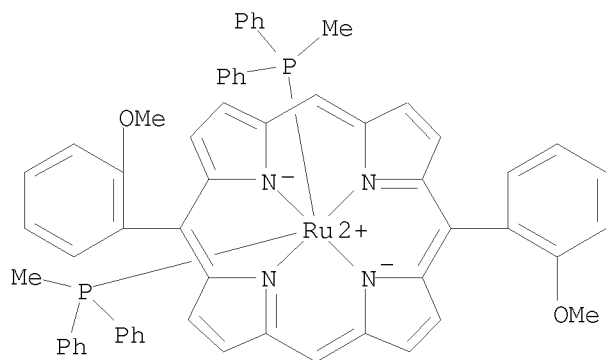
CN Ruthenium, [5,15-bis(9,9'-spirobi[9H-fluoren]-2-yl)-21H,23H-porphinato(2-)-
κN21,κN22,κN23,κN24]bis(methyldiphenylphosphine)-,
(OC-6-12)- (9CI) (CA INDEX NAME)



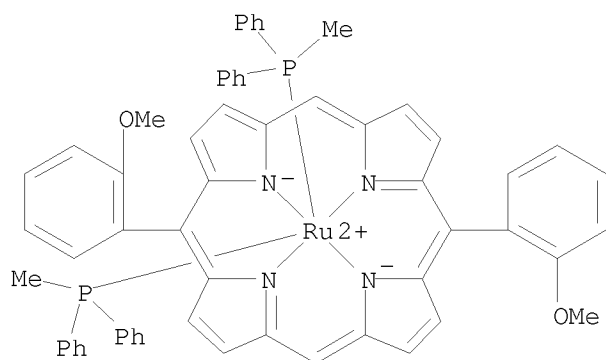
IT 515813-13-5P 516476-21-4P
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(preparation as ¹H NMR comparison complex in study of atropisomerism of
ruthenium spirobifluorene-porphyrins)

RN 515813-13-5 CAPLUS

CN Ruthenium, [5,15-bis(2-methoxyphenyl)-21H,23H-porphinato(2-)-
κN21,κN22,κN23,κN24]bis(methyldiphenylphosphine)-,
stereoisomer (9CI) (CA INDEX NAME)



RN 516476-21-4 CAPLUS
 CN Ruthenium, [5,15-bis(2-methoxyphenyl)-21H,23H-porphinato(2-)-
 κ N21, κ N22, κ N23, κ N24]bis(methyldiphenylphosphine)-,
 stereoisomer (9CI) (CA INDEX NAME)

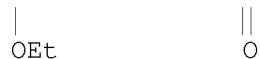


REFERENCE COUNT: 18 THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS
 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 26 OF 72 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 2003:47851 CAPLUS
 DOCUMENT NUMBER: 138:344507
 TITLE: Supported organometallic complexes. XXXVI.
 Diaminediphosphineruthenium(II) interphase catalysts
 for the hydrogenation of α,β -unsaturated
 ketones
 AUTHOR(S): Lindner, Ekkehard; Al-Gharabli, Samer; Warad, Ismail;
 Mayer, Hermann A.; Steinbrecher, Stefan; Plies, Erich;
 Seiler, Michael; Bertagnolli, Helmut
 CORPORATE SOURCE: Institut fur Anorganische Chemie, Universitat
 Tubingen, Tubingen, D-72076, Germany
 SOURCE: Zeitschrift fuer Anorganische und Allgemeine Chemie
 (2003), 629(1), 161-171
 CODEN: ZAACAB; ISSN: 0044-2313
 PUBLISHER: Wiley-VCH Verlag GmbH & Co. KGaA
 DOCUMENT TYPE: Journal

[illegible]

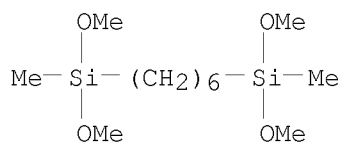
PAGE 2-A



CM 2

CRN 191917-78-9

CMF C12 H30 O4 Si2



RN 515139-66-9 CAPLUS

CN Ruthenium, dichlorobis[N-[[4-[(2-methoxyethyl)phenylphosphino-
 κ P]phenyl]methyl]-N'-[3-(triethoxysilyl)propyl]urea](1,3-
 propanediamine- κ N, κ N')-, (OC-6-13)-, polymer with
 trimethoxymethylsilane (9CI) (CA INDEX NAME)

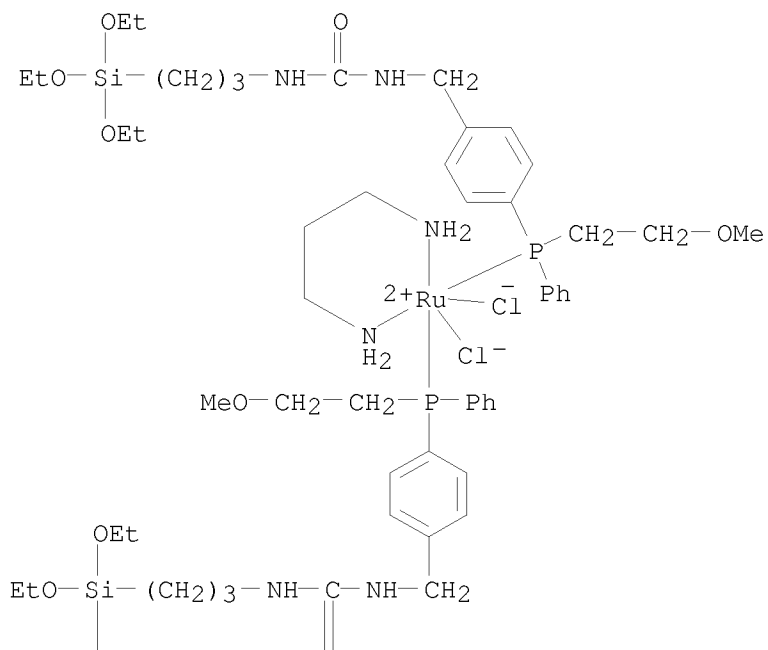
CM 1

CRN 457892-04-5

CMF C55 H92 Cl2 N6 O10 P2 Ru Si2

CCI CCS

PAGE 1-A



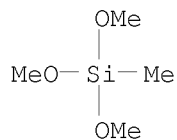
PAGE 2-A



CM 2

CRN 1185-55-3

CMF C4 H12 O3 Si

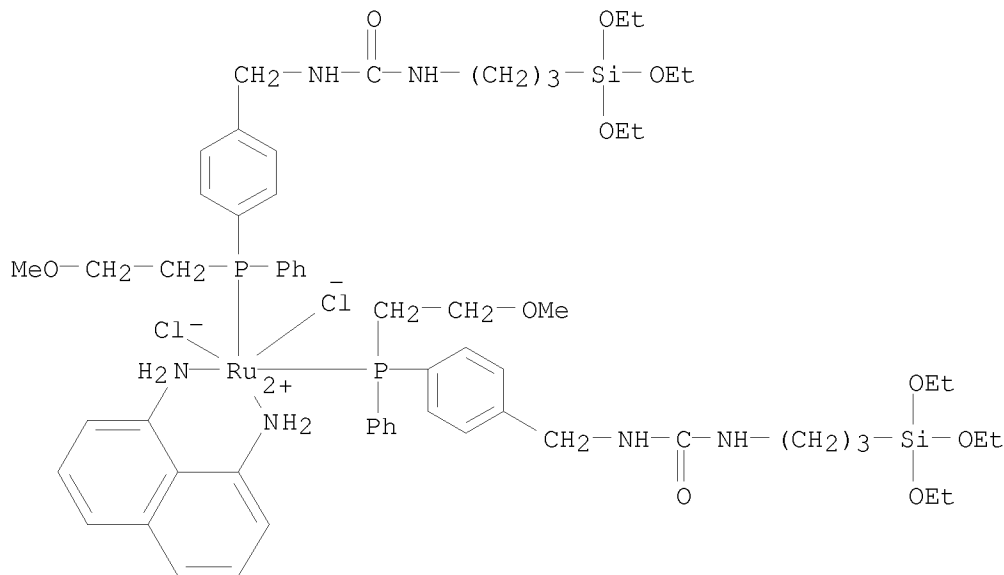


RN 515139-69-2 CAPLUS

CN Ruthenium, dichlorobis[N-[[4-[(2-methoxyethyl)phenylphosphino-κP]phenyl]methyl]-N'-[3-(triethoxysilyl)propyl]urea](1,8-naphthalenediamine-κN,κN')-, (OC-6-13)-, polymer with trimethoxymethylsilane (9CI) (CA INDEX NAME)

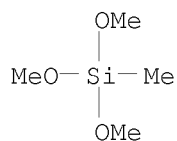
CM 1

CRN 457892-07-8
 CMF C62 H92 C12 N6 O10 P2 Ru Si2
 CCI CCS



CM 2

CRN 1185-55-3
 CMF C4 H12 O3 Si



REFERENCE COUNT: 33 THERE ARE 33 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 27 OF 72 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2002:688774 CAPLUS

DOCUMENT NUMBER: 137:343170

TITLE: Phosphine and Phosphonite Complexes of a Ru(II) Porphyrin. 2. Photophysical and Electrochemical Studies

AUTHOR(S): Stulz, Eugen; Sanders, Jeremy K. M.; Montalti, Marco; Prodi, Luca; Zaccheroni, Nelsi; Fabrizi de Biani, Fabrizia; Grigiotti, Emanuela; Zanello, Piero
 CORPORATE SOURCE: University Chemical Laboratory, University of Cambridge, Cambridge, CB2 1EW, UK

SOURCE: Inorganic Chemistry (2002), 41(20), 5269-5275
 CODEN: INOCAJ; ISSN: 0020-1669

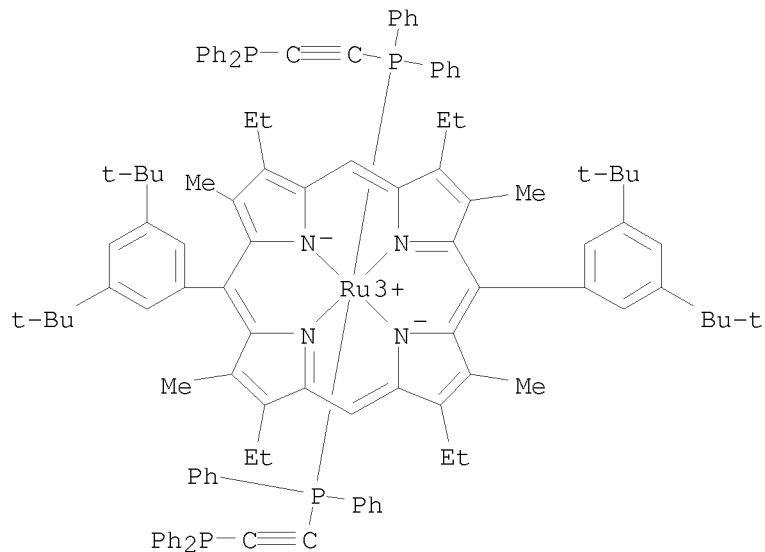
PUBLISHER: American Chemical Society
 DOCUMENT TYPE: Journal
 LANGUAGE: English

AB The photophys. and electrochem. properties of mono- and bis-phosphine complexes of a 5,15-diphenyl-substituted ruthenium porphyrin, (MeOH)RuII(CO)(DPP) (1), were studied. The ligands used were diphenyl(phenylacetenyl)phosphine (DPAP), di-Et (phenylacetenyl)phosphonite [PAP(OEt)₂], tris(phenylacetenyl)phosphine [(PA)₃P], and bis(diphenylphosphino)acetylene (DPPA). All complexes display two reversible 1-electron oxidns. at: 0.61 and 1.0 V vs. SCE (1), 0.42-0.51 and 0.97-1.05 V [(PR₃)RuII(CO)(DPP)], and 0.06-0.25 and 0.82-0.95 V [(PR₃)₂RuII(DPP)]. As predicted by EHMO calcns., the 1st oxidation is porphyrin or phosphorus centered, whereas the 2nd one is ruthenium centered. Bulk electrolysis at the 1st oxidation potential yields stable monocations. Simulation of the cyclic voltammogram of (DPAP)RuII(CO)(DPP) in CH₂Cl₂ demonstrates the kinetic lability of the complex, and the association constant found ($K = 1.27 \times 10^6 \text{ M}^{-1}$) is in accordance with the value determined by UV-visible titration ($K = 1.2 \pm 0.3 \times 10^6 \text{ M}^{-1}$). Coordination of one phosphine ligand to RuII(CO)(DPP) leads to a red shift in both the absorption and luminescence spectra. Shifts are typically 10 nm for the B- and Q-band absorptions and are not affected by the nature of the phosphorus ligand. The intense luminescence of (PR₃)RuII(CO)(DPP), red shifted by 21-28 nm compared to 1, can be attributed to originate from a $3(\pi, \pi^*)$ excited state, and it exhibits lifetimes from 150 to 240 μs . In the bis-phosphine complexes (PR₃)₂RuII(DPP), the Q-band absorption is broadened and does not show any distinct peak. Judged from EHMO calcn., this could arise from a low-energy charge-transfer state involving the phosphorus ligand. The luminescence is efficiently quenched due to radiationless decay from a charge-transfer excited state, involving either the metal center or the phosphorus ligand; an unambiguous assignment could not be made.

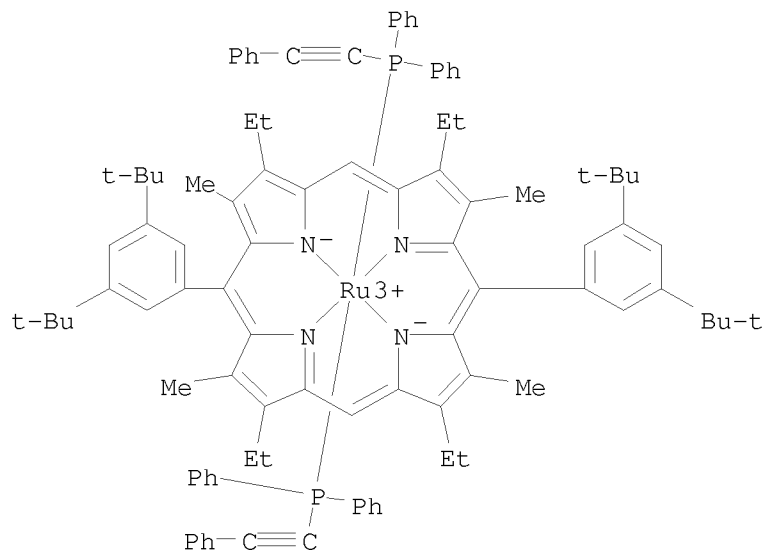
IT 473916-22-2 473916-23-3 473916-24-4
 473916-25-5
 RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PRP (Properties); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)
 (electrochem. oxidative formation and electrochem. oxidation in CH₂Cl₂ and photophys. and electrochem. studies of ruthenium porphyrin phosphine and phosphonite complexes)

RN 473916-22-2 CAPLUS

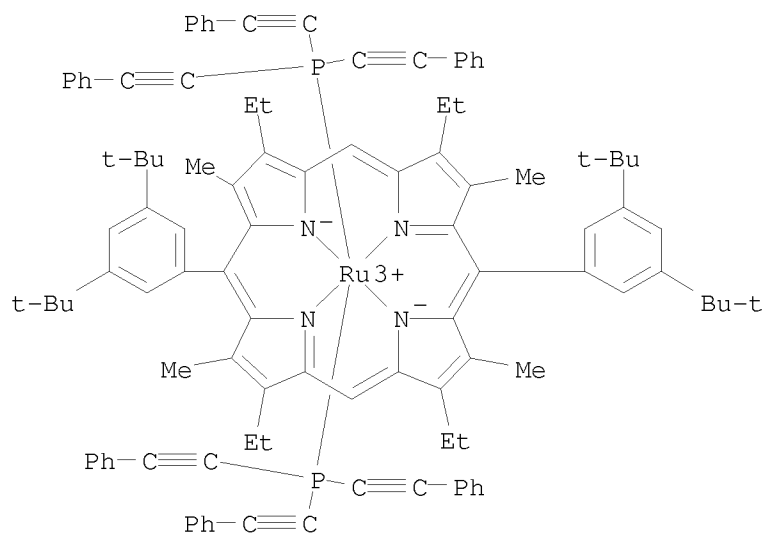
CN Ruthenium(1+), [5,15-bis[3,5-bis(1,1-dimethylethyl)phenyl]-2,8,12,18-tetraethyl-3,7,13,17-tetramethyl-21H,23H-porphinato(2-)- $\kappa\text{N}21, \kappa\text{N}22, \kappa\text{N}23, \kappa\text{N}24$]bis[[(diphenylphosphino)ethyny l]diphenylphosphine- κP]-, (OC-6-12)- (9CI) (CA INDEX NAME)



RN 473916-23-3 CAPLUS
 CN Ruthenium(1+), [5,15-bis[3,5-bis(1,1-dimethylethyl)phenyl]-2,8,12,18-tetraethyl-3,7,13,17-tetramethyl-21H,23H-porphinato(2-)-κN21,κN22,κN23,κN24]bis[diphenyl(phenylethynyl)phosphine]-, (OC-6-12)-(9CI) (CA INDEX NAME)

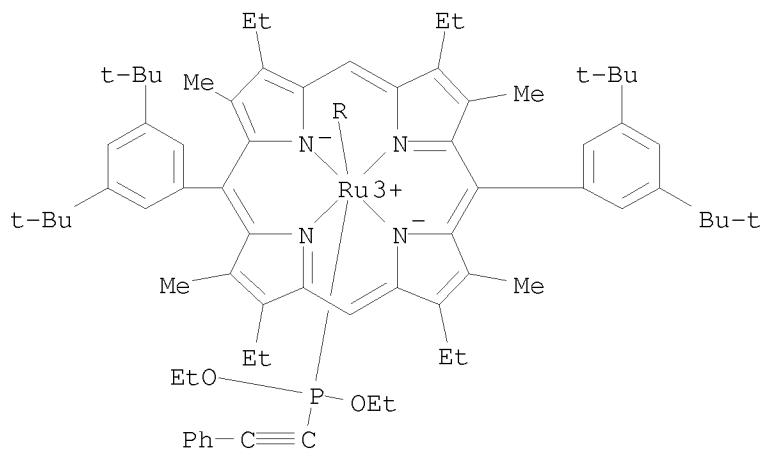


RN 473916-24-4 CAPLUS
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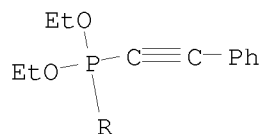


RN 473916-25-5 CAPLUS
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PAGE 1-A



PAGE 2-A



IT 473916-26-6 473916-27-7 473916-28-8

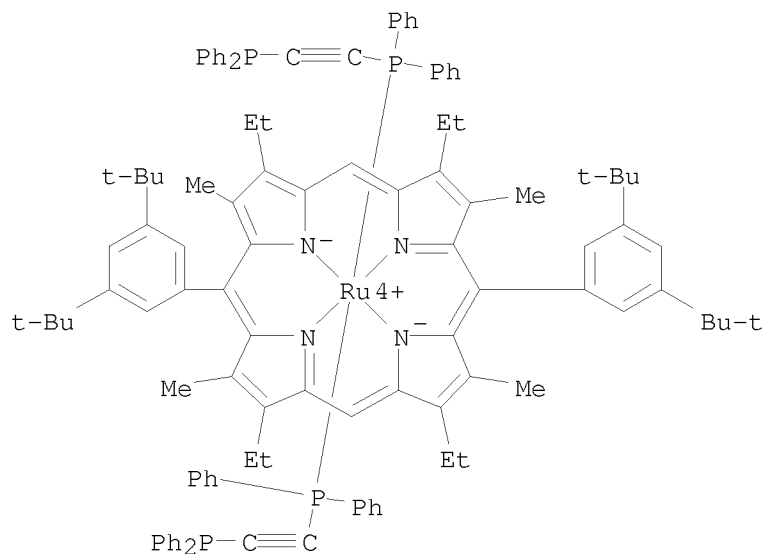
473916-29-9

RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PRP (Properties); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)

(electrochem. oxidative formation in CH₂Cl₂ and photophys. and electrochem. studies of ruthenium porphyrin phosphine and phosphonite complexes)

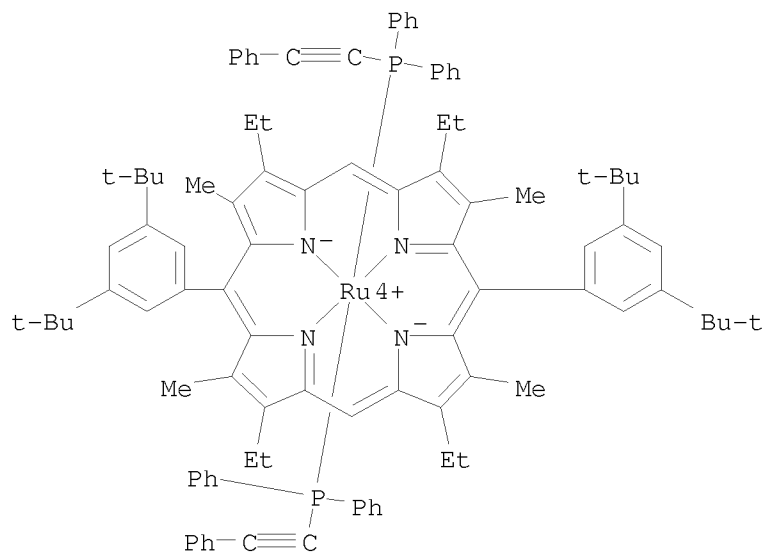
RN 473916-26-6 CAPLUS

CN Ruthenium(2+), [5,15-bis[3,5-bis(1,1-dimethylethyl)phenyl]-2,8,12,18-tetraethyl-3,7,13,17-tetramethyl-21H,23H-porphinato(2-)-κN21,κN22,κN23,κN24]bis[[(diphenylphosphino)ethyny l]diphenylphosphine-κP]-, (OC-6-12)- (9CI) (CA INDEX NAME)

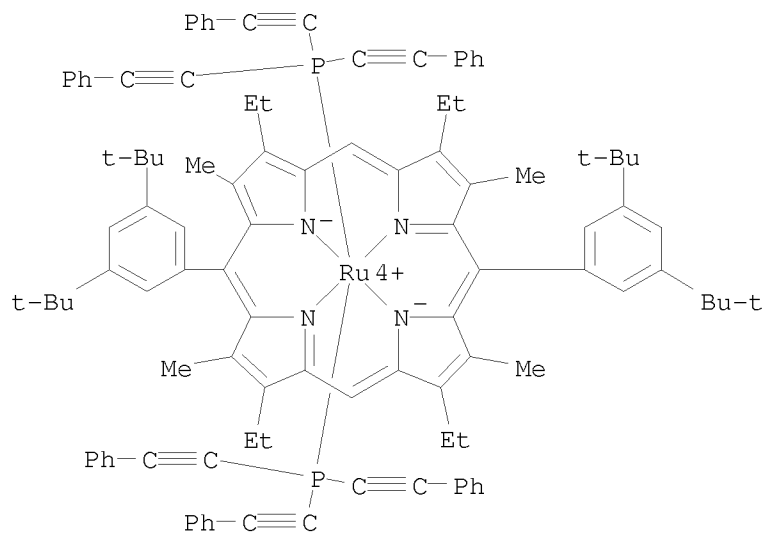


RN 473916-27-7 CAPLUS

CN Ruthenium(2+), [5,15-bis[3,5-bis(1,1-dimethylethyl)phenyl]-2,8,12,18-tetraethyl-3,7,13,17-tetramethyl-21H,23H-porphinato(2-)-κN21,κN22,κN23,κN24]bis[diphenyl(phenylethynyl)phosphine]-, (OC-6-12)- (9CI) (CA INDEX NAME)

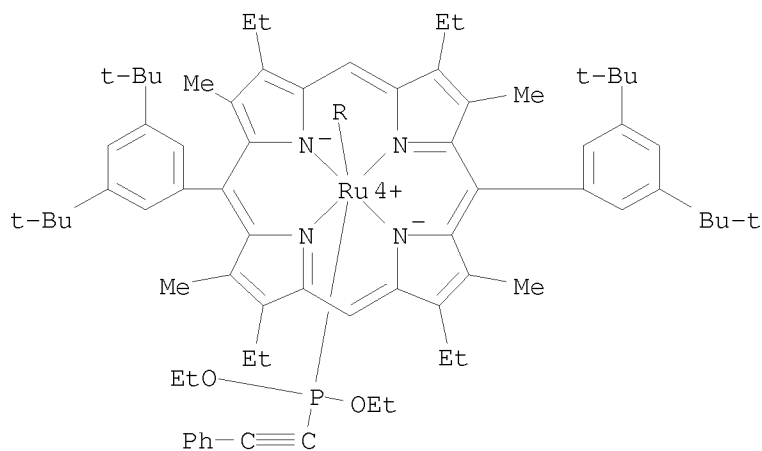


RN 473916-28-8 CAPLUS
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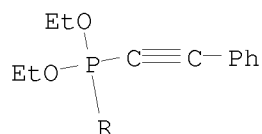


RN 473916-29-9 CAPLUS
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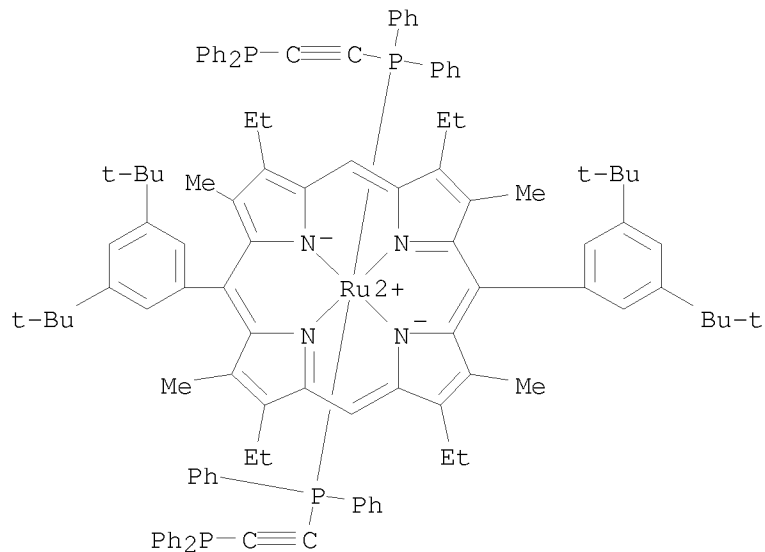
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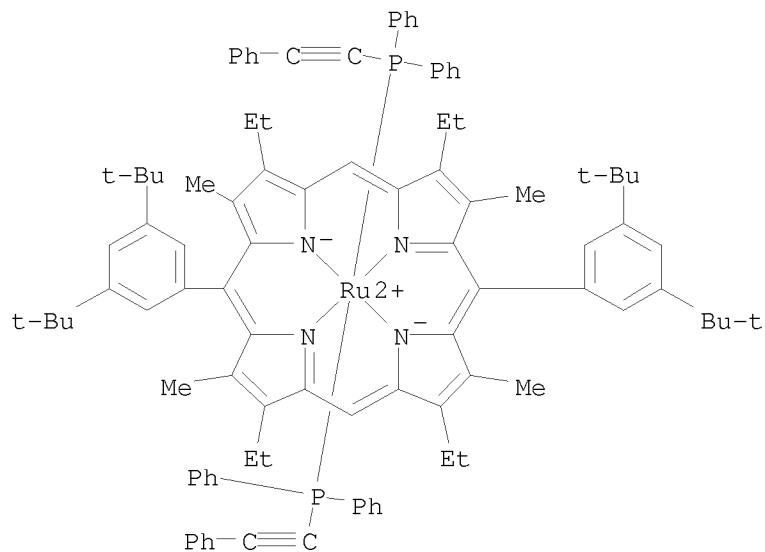
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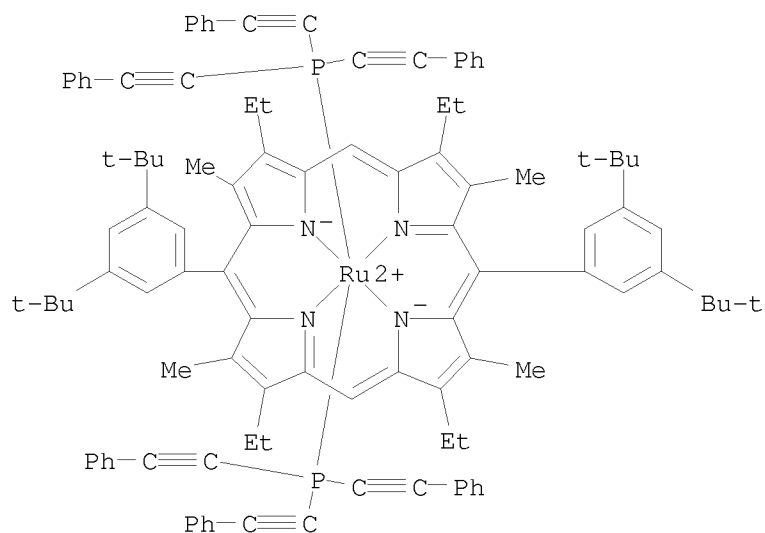
IT 473916-18-6 473916-19-7 473916-20-0
 473916-21-1
 RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PRP (Properties); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)
 (electrochem. reactions and formal electrode potentials and photophys. properties in CH₂Cl₂)
 RN 473916-18-6 CAPLUS
 CN Ruthenium, [5,15-bis[3,5-bis(1,1-dimethylethyl)phenyl]-2,8,12,18-tetraethyl-3,7,13,17-tetramethyl-21H,23H-porphinato(2-)-κN21,κN22,κN23,κN24]bis[1,2-ethynediylbis[diphenylphosphine-κP]]-, (OC-6-12)- (9CI) (CA INDEX NAME)



RN 473916-19-7 CAPLUS
 CN Ruthenium, [5,15-bis[3,5-bis(1,1-dimethylethyl)phenyl]-2,8,12,18-tetraethyl-3,7,13,17-tetramethyl-21H,23H-porphinato(2-)-κN21,κN22,κN23,κN24]bis[diphenyl(phenylethynyl)phosphine]-, (OC-6-12)- (9CI) (CA INDEX NAME)

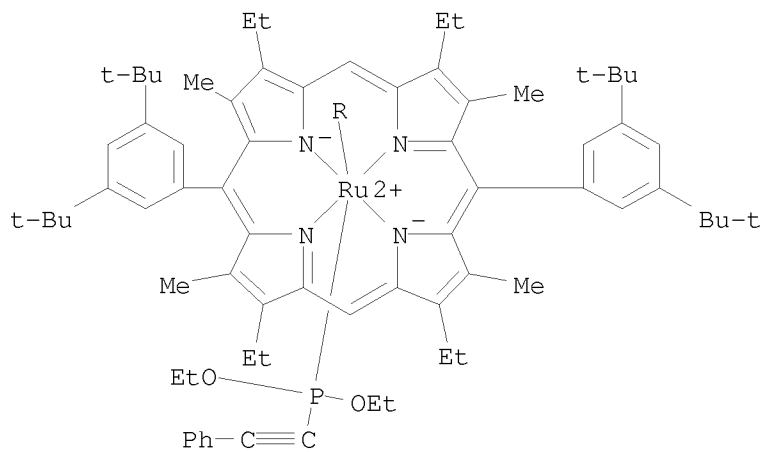


RN 473916-20-0 CAPLUS
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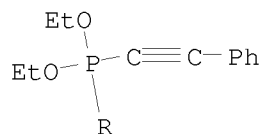


RN 473916-21-1 CAPLUS
 CN Ruthenium, [5,15-bis[3,5-bis(1,1-dimethylethyl)phenyl]-2,8,12,18-tetraethyl-3,7,13,17-tetramethyl-21H,23H-porphinato(2-)-κN21,κN22,κN23,κN24]bis[diethyl (phenylethynyl)phosphonate-κP]-, (OC-6-12)-(9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



REFERENCE COUNT: 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS

RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 28 OF 72 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2002:688773 CAPLUS

DOCUMENT NUMBER: 137:345188

TITLE: Phosphine and Phosphonite Complexes of a Ruthenium(II) Porphyrin. 1. Synthesis, Structure, and Solution State Studies

AUTHOR(S): Stulz, Eugen; Maue, Michael; Feeder, Neil; Teat, Simon J.; Ng, Yiu-Fai; Bond, Andrew D.; Darling, Scott L.; Sanders, Jeremy K. M.

CORPORATE SOURCE: University Chemical Laboratory, University of Cambridge, Cambridge, CB2 1EW, UK

SOURCE: Inorganic Chemistry (2002), 41(20), 5255-5268
CODEN: INOCAJ; ISSN: 0020-1669

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 137:345188

AB The authors have studied the effect of complexation of different P ligands on the stability, solid state structure, and spectroscopic properties (NMR, IR, UV-visible) of a 5,15-diphenyl-substituted Ru porphyrin, (MeOH)RuII(CO)(DPP) 2 [DPP = 5,15-bis(3',5'-di-tert-butyl)phenyl-2,8,12,18-tetraethyl-3,7,13,17-tetramethylporphyrin]. The ligands used are PPh₃, diphenyl(phenylacetylenyl)phosphine (DPAP), bis(diphenylphosphino)acetylene (DPPA), tris(phenylacetylenyl)phosphine [(PA)3P], and di-Et(phenylacetylenyl)phosphonite [PAP(OEt)2]. The mono-phosphine complexes (PR3)RuII(CO)(DPP) are readily formed in solution in quant. yields. The complexes display association consts. ranging from 1.2 × 10⁴ M⁻¹ for PPh₃ to 4.8 × 10⁶ M⁻¹ for PAP(OEt)2. The weak association of PPh₃ does not correlate with its pK_a, δ(31P), or cone angle value and is attributed to steric effects. Due to their kinetic lability, which is shown by 2-dimensional NMR spectroscopy, and the weakening of the carbonyl ligand via a trans effect, the mono-phosphine complexes could not be isolated. IR spectroscopy gives the relative order of π-acceptor strength as PPh₃ < DPAP, DPPA < (PA)3P < PAP(OEt)2, whereas the relative order of the σ-donor strength is PPh₃ < (PA)3P < DPAP, DPPA < PAP(OEt)2, based on the calculated pK_a values and on the 31P{1H} NMR chemical shifts of the ligands. The chemical shift differences in the 31P{1H} NMR spectra upon ligand binding display a linear correlation with the calculated pK_a values of the protonated ligands HPR3⁺; probably the pK_a, and probably other electronic properties, of a specific P ligand can be estimated from the chemical shift difference Δδ(31P) upon complexation to a metalloporphyrin. The bis-phosphine complexes can be isolated in pure form by crystallization from CHCl₃-MeOH solns. using excess ligand.

Association of

the 2nd ligand is in the same order of magnitude as the 1st binding for the phosphines, but the 2nd phosphonite binding is decreased by a factor of .apprx.100. The solid state structures show only marginal differences in the geometrical parameters. The calculated and the crystallog. cone angles of the ligands generally do not match, apart from the values obtained for PAP(OEt)2.

IT 473916-21-1P

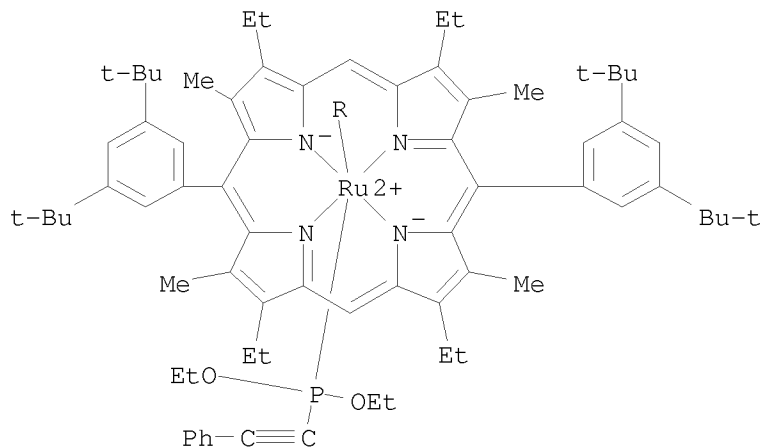
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(preparation and crystal structure)

RN 473916-21-1 CAPLUS

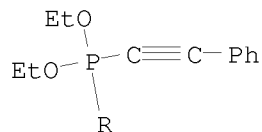
CN Ruthenium, [5,15-bis[3,5-bis(1,1-dimethylethyl)phenyl]-2,8,12,18-

tetraethyl-3,7,13,17-tetramethyl-21H,23H-porphinato(2-)-
 $\kappa N21, \kappa N22, \kappa N23, \kappa N24$]bis[diethyl
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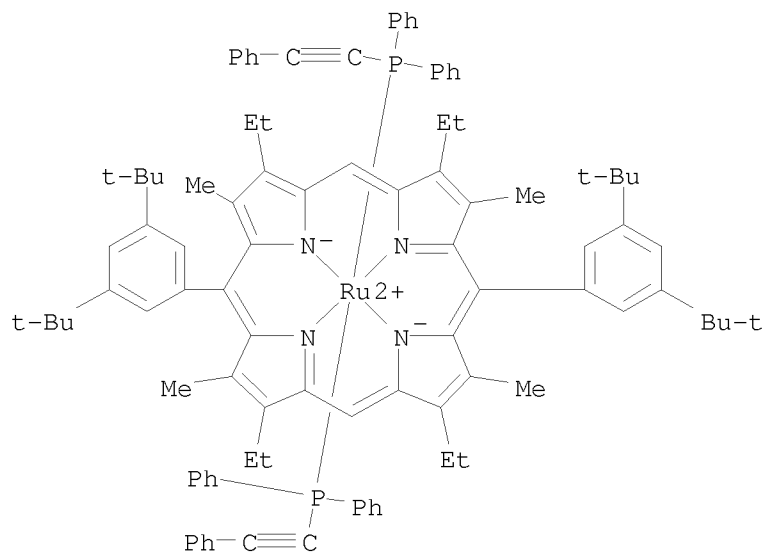
PAGE 1-A



PAGE 2-A



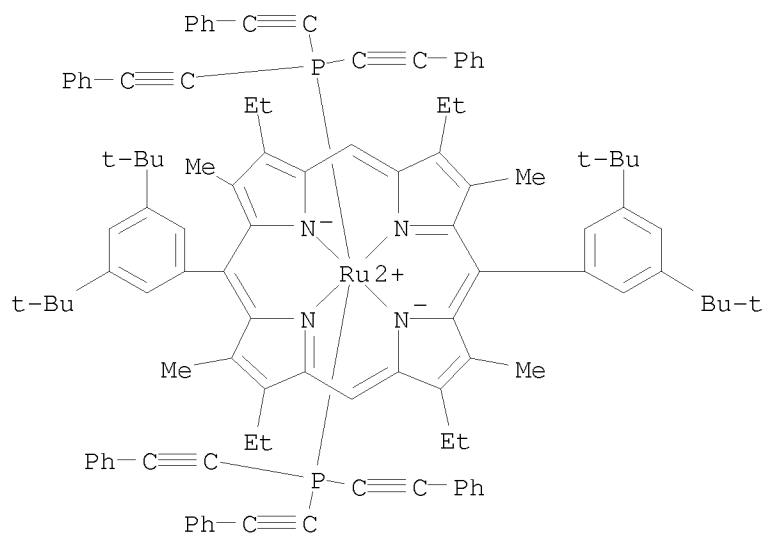
IT 473916-19-7P 473975-54-1P
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (preparation and crystal structure of)
 RN 473916-19-7 CAPLUS
 CN Ruthenium, [5,15-bis[3,5-bis(1,1-dimethylethyl)phenyl]-2,8,12,18-
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 $\kappa N21, \kappa N22, \kappa N23, \kappa N24$]bis[diphenyl(phenylethynyl)pho
 sphine]-, (OC-6-12)- (9CI) (CA INDEX NAME)



RN 473975-54-1 CAPLUS
 CN Ruthenium, [5,15-bis[3,5-bis(1,1-dimethylethyl)phenyl]-2,8,12,18-tetraethyl-3,7,13,17-tetramethyl-21H,23H-porphinato(2-)-κN21,κN22,κN23,κN24]bis[tris(phenylethynyl)phosphine]-, (OC-6-12)-, compd. with trichloromethane (1:4) (9CI) (CA INDEX NAME)

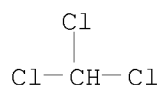
CM 1

CRN 473916-20-0
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 CCI CCS

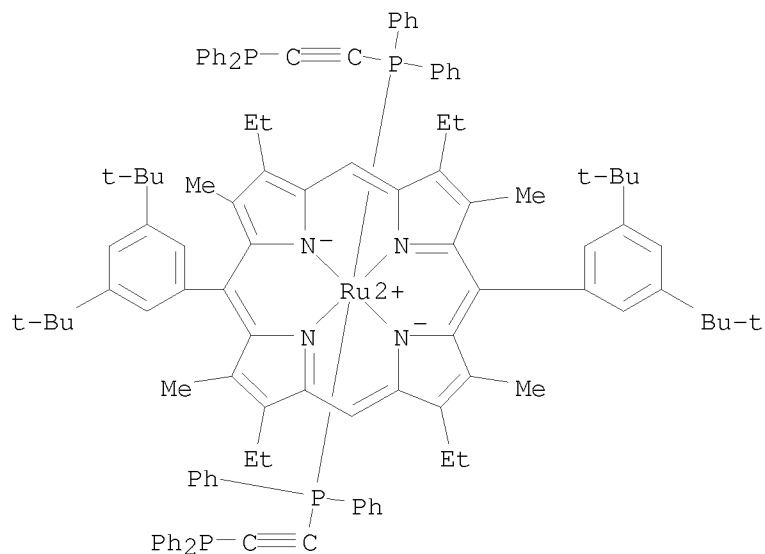


CM 2

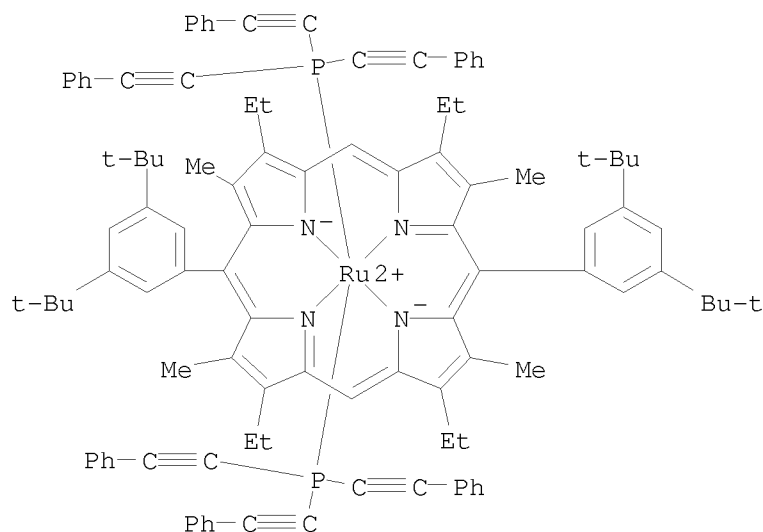
CRN 67-66-3
CMF C H Cl3



IT 473916-18-6P 473916-20-0P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
RN 473916-18-6 CAPLUS
CN Ruthenium, [5,15-bis[3,5-bis(1,1-dimethylethyl)phenyl]-2,8,12,18-tetraethyl-3,7,13,17-tetramethyl-21H,23H-porphinato(2-)- $\kappa\text{N}21,\kappa\text{N}22,\kappa\text{N}23,\kappa\text{N}24$]bis[1,2-ethynediylbis[diphenylphosphine- κP]]-, (OC-6-12)- (9CI) (CA INDEX NAME)



RN 473916-20-0 CAPLUS
CN Ruthenium, [5,15-bis[3,5-bis(1,1-dimethylethyl)phenyl]-2,8,12,18-tetraethyl-3,7,13,17-tetramethyl-21H,23H-porphinato(2-)- $\kappa\text{N}21,\kappa\text{N}22,\kappa\text{N}23,\kappa\text{N}24$]bis[tris(phenylethynyl)phosphine]-, (OC-6-12)- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 88 THERE ARE 88 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 29 OF 72 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2002:675269 CAPLUS

DOCUMENT NUMBER: 138:153380

TITLE: Catalytic monooxygenation reactions using mono- and binuclear ruthenium amide complexes as the homogeneous catalysts

AUTHOR(S): Dutta, Sujit; Bhattacharya, Pabitra K.

CORPORATE SOURCE: Faculty of Science, Department of Chemistry, M.S. University of Baroda, Vadodara, Gujarat, 390 002, India

SOURCE: Journal of Molecular Catalysis A: Chemical (2002), 188(1-2), 45-50

CODEN: JMCCF2; ISSN: 1381-1169

PUBLISHER: Elsevier Science B.V.

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 138:153380

AB Mononuclear amide complexes, their substituted complexes and binuclear amide complexes of ruthenium, reported earlier by us, have been used as catalysts for the epoxidn. of olefins. The complexes exhibit low to moderate catalytic activity. The electronic spectra and electrochem. study of the catalyst do not show any change on addition of PhIO, ruling out the involvement of the metal-oxo intermediate and hence the oxygen rebound mechanism. The catalytic reaction has been explained on the basis of Lewis acid behavior of the ruthenium center in these complexes.

IT 364042-05-7

RL: CAT (Catalyst use); USES (Uses)

(epoxidn. of olefins using mono- and binuclear ruthenium amide complexes as homogeneous catalysts)

RN 364042-05-7 CAPLUS

CN Ruthenium(1+), (2-pyridineethanamine-κN1,κN2) (N-2-pyridinyl-2-pyridinecarboxamidato-κN1,κN2)bis(triphenylphosphine)-,

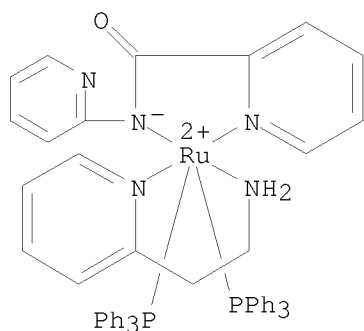
(OC-6-15)-, perchlorate (9CI) (CA INDEX NAME)

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CRN 364042-04-6

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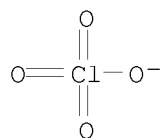
CCI CCS



CM 2

CRN 14797-73-0

CMF C1 O4



REFERENCE COUNT: 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 30 OF 72 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2002:444600 CAPLUS

DOCUMENT NUMBER: 137:241196

TITLE: Supported organometallic complexes Part 31: diaminediphosphineruthenium(II) precursor complexes for parallel synthesis in interphases

AUTHOR(S): Lindner, Ekkehard; Al-Gharabli, Samer; Mayer, Hermann A.

CORPORATE SOURCE: Institut fur Anorganische Chemie der Universitat Tubingen, Tubingen, D-72076, Germany

SOURCE: Inorganica Chimica Acta (2002), 334, 113-121
CODEN: ICHAA3; ISSN: 0020-1693

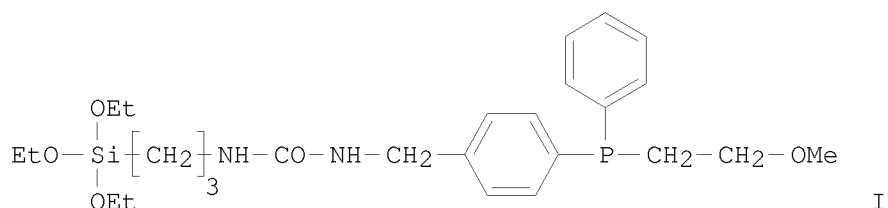
PUBLISHER: Elsevier Science B.V.

DOCUMENT TYPE: Journal

LANGUAGE: English

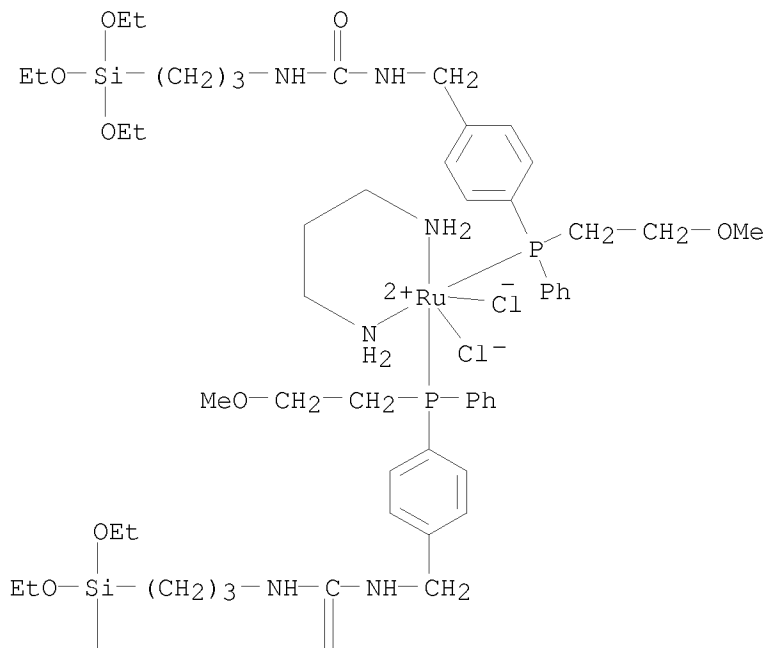
OTHER SOURCE(S): CASREACT 137:241196

GI



- AB The hemilabile, triethoxysilyl functionalized ether-phosphine ligand 4(To) (I) was obtained by reaction of PhP(H)CH₂CH₂OCH₃ (2) with 4-fluorobenzylamine in 1,1'-dimethoxyethane in the presence of potassium and subsequent treatment of the resulting coupling product (3) with (EtO)₃Si(CH₂)₃NCO in dichloromethane. The modified ligand 4(To) was used in the synthesis of a matrix of T-silyl functionalized ruthenium(II) complexes Cl₂Ru(P.apprx.O)₂(diamine) [6a(To)-6g(To)] by addition of aliphatic and aromatic diamines a-g (ethylenediamine, 1,3- and 1,2-propanediamine, 1,2-benzenediamine, 1,8-diaminonaphthalene, 2,2'-bipyridine, 1,10-phenanthroline, resp.) to the bis(chelated) precursor complex Cl₂Ru(P.apprx.O)₂ [5(To)]. The corresponding monocationic ruthenium(II) complexes [ClRu(P.intrsec.O)(P.apprx.O)(diamine)][BF₄]/[PF₆] [7a(To)-7g(To)] were available by chloride abstraction from 6a(To) to 6g(To) with AgBF₄ or TlPF₆ in dichloromethane. Only in the case of 6a(To) it was possible to partially abstract both chlorides to give the dicationic complex [Ru(P.intrsec.O)₂(diamine)][PF₆]₂ [8a(To)] in low yields. Complexes 6a(To)-6g(To) and 7a(To)-7g(To) can be regarded as valuable precursors for sol-gel processing to carry out parallel synthesis in interphases in the field of catalysis.
- IT 457892-04-5P 457892-07-8P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (preparation and chloride abstraction as precursor for parallel synthesis in interphases)
- RN 457892-04-5 CAPLUS
- CN Ruthenium, dichlorobis[N-[[4-[(2-methoxyethyl)phenylphosphino-κP]phenyl]methyl]-N'-[3-(triethoxysilyl)propyl]urea](1,3-propanediamine-κN,κN')-, (OC-6-13)-(9CI) (CA INDEX NAME)

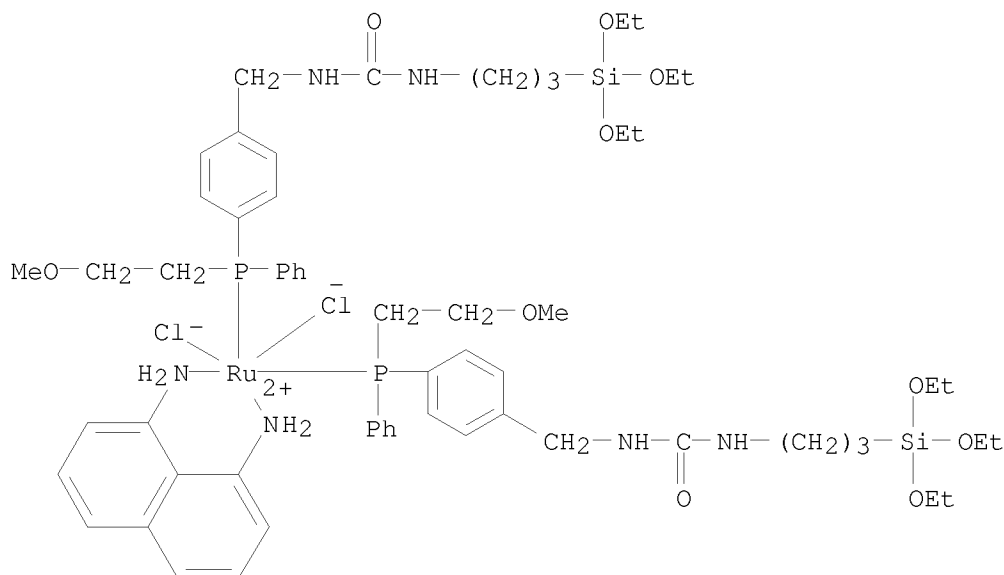
PAGE 1-A



PAGE 2-A



RN 457892-07-8 CAPLUS
 CN Ruthenium, dichlorobis[N-[[4-[(2-methoxyethyl)phenylphosphino-
 κP]phenyl]methyl]-N'-[3-(triethoxysilyl)propyl]urea](1,8-
 naphthalenediamine-κN,κN')-, (OC-6-13)- (CA INDEX NAME)



REFERENCE COUNT: 25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 31 OF 72 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2001:871778 CAPLUS

DOCUMENT NUMBER: 136:177058

TITLE: Structural Studies of an Array of Mixed Diamine Phosphine Ruthenium(II) Complexes

AUTHOR(S): Nachtigal, Christiane; Al-Gharabli, Samer; Eichele, Klaus; Lindner, Ekkehard; Mayer, Hermann A.

CORPORATE SOURCE: Institut fuer Anorganische Chemie, Universitaet Tuebingen, Tuebingen, 72076, Germany

SOURCE: Organometallics (2002), 21(1), 105-112

CODEN: ORGND7; ISSN: 0276-7333

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

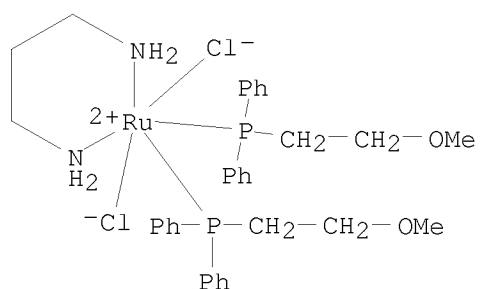
LANGUAGE: English

OTHER SOURCE(S): CASREACT 136:177058

AB Treatment of $\text{RuCl}_2(\eta^2\text{-Ph}_2\text{PCH}_2\text{CH}_2\text{OCH}_3)_2$ with various chelating diamines permitted the isolation of the corresponding $\text{RuCl}_2(\eta^1\text{-Ph}_2\text{PCH}_2\text{CH}_2\text{OCH}_3)_2(\text{diamine})$ complexes in high yield (diamine = 1,2-diaminoethane, 1,2-diaminopropane, 1,3-diaminopropane, 1,2-phenylenediamine, 1,8-diaminonaphthalene, 2,2'-bipyridine, 1,10-phenanthroline). In solution, all complexes prefer the trans-chloro cis-phosphine arrangement, as deduced by NMR spectroscopy. X-ray studies showed that in the solid state all three possible isomers of the octahedral $\text{RuCl}_2\text{P}_2(\text{diamine})$ complexes are present. The reaction of the $\text{RuCl}_2(\eta^1\text{-Ph}_2\text{PCH}_2\text{CH}_2\text{OCH}_3)_2(\text{diamine})$ complexes with 1 equiv of AgSbF_6 , AgBF_4 , or TlPF_6 leads to the abstraction of one chloride by simultaneously coordinating one ether oxygen to ruthenium and forming monocationic $[\text{RuCl}(\eta^1\text{-Ph}_2\text{PCH}_2\text{CH}_2\text{OCH}_3)(\eta^2\text{-Ph}_2\text{PCH}_2\text{CH}_2\text{OCH}_3)(\text{diamine})]^+$ compds. If a large excess of silver or thallium salt is used, the dichloro complexes are converted to the $[\text{Ru}(\eta^2\text{-Ph}_2\text{PCH}_2\text{CH}_2\text{OCH}_3)_2(\text{diamine})]^{2+}$ dications. In the case of 1,2-phenylenediamine as coligand, the corresponding

dication is only observed in traces. NMR spectroscopic investigations and x-ray structural analyses confirm the $\eta 1$ and $\eta 2$ coordination of the ether-phosphine ligands in the corresponding mono- and dicationic ruthenium(II) complexes.

IT 396130-64-6P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (preparation and chloride abstraction reactions of)
 RN 396130-64-6 CAPLUS
 CN Ruthenium, dichlorobis[(2-methoxyethyl)diphenylphosphine- κP](1,3-propanediamine- $\kappa N1, \kappa N3$)-, (OC-6-13)- (CA INDEX NAME)

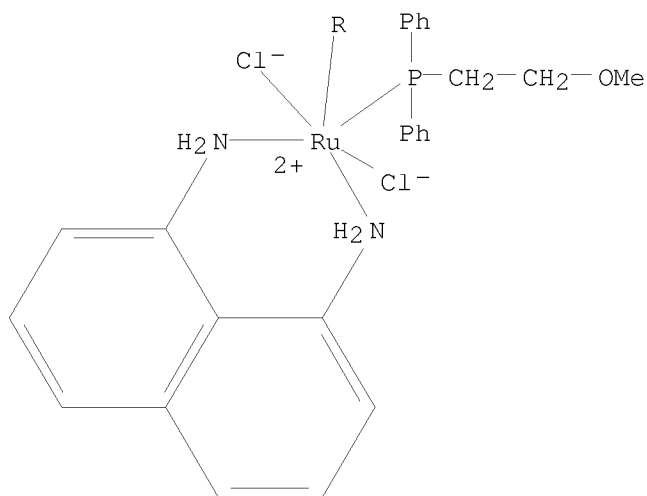


IT 396130-70-4P
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (preparation and crystal structure of)
 RN 396130-70-4 CAPLUS
 CN Ruthenium, dichlorobis[(2-methoxyethyl)diphenylphosphine- κP](1,8-naphthalenediamine- $\kappa N, \kappa N'$)-, (OC-6-13)-, compd. with dichloromethane (1:1) (CA INDEX NAME)

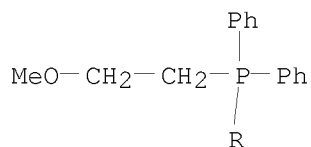
CM 1

CRN 396130-67-9
 CMF C40 H44 Cl2 N2 O2 P2 Ru
 CCI CCS

PAGE 1-A



PAGE 2-A



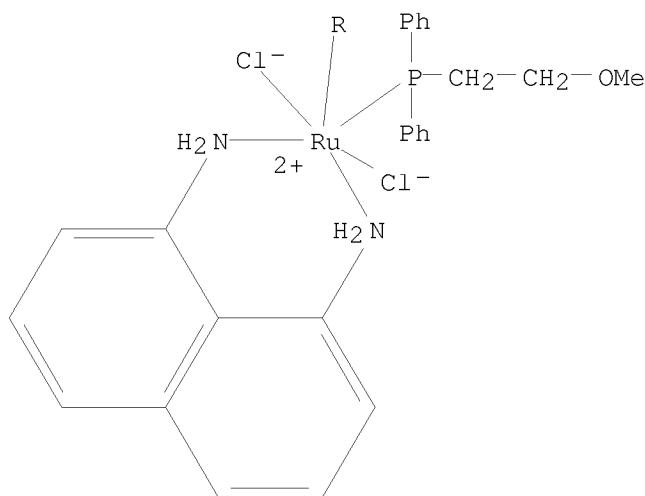
CM 2

CRN 75-09-2
CMF C H2 Cl2

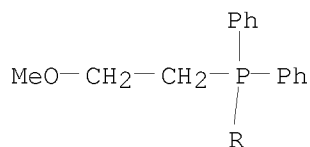
Cl-CH₂-Cl

IT 396130-67-9P
RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation, mol. structure, and chloride abstraction reactions of)
RN 396130-67-9 CAPLUS
CN Ruthenium, dichlorobis[(2-methoxyethyl)diphenylphosphine-κP](1,8-naphthalenediamine-κN,κN')-, (OC-6-13)- (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



REFERENCE COUNT: 57 THERE ARE 57 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 32 OF 72 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2001:467008 CAPLUS

DOCUMENT NUMBER: 135:282103

TITLE: Synthesis and substitution reactions of dichlorobis(triphenylphosphine)[2-(N-(2-pyridinium-2-yl)-carbamoyl-N-)pyridine]ruthenium(II)

AUTHOR(S): Dutta, S.; Bhattacharya, P. K.; Horn, E.; Tiekink, E. R. T.

CORPORATE SOURCE: Faculty of Science, Department of Chemistry, M.S. University of Baroda, Baroda, Gujarat, 390 002, India

SOURCE: Polyhedron (2001), 20(15-16), 1815-1820

CODEN: PLYHDE; ISSN: 0277-5387

PUBLISHER: Elsevier Science Ltd.

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 135:282103

AB Spectroscopic and crystallog. studies show that 2-(N-(2-pyridyl)carbamoyl)pyridine (HL) in both its neutral and deprotonated forms, coordinates Ru(II) via the amidato- and pyridine-N atoms thereby forming five-membered rings. In neutral [Ru(HL)(PPh₃)₂Cl₂],

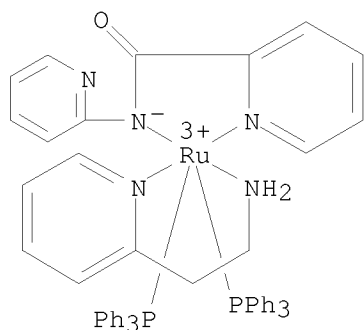
HL exists as a zwitterion and the mol. structure is stabilized, in part, by an intramol. Cl...N interaction. Reaction of Ru(HL)(PPh₃)₂Cl₂ with bidentate chelating ligands leads to the replacement of two chlorides by the bidentate ligands, giving the mixed-ligand complexes. There is deprotonation of the zwitterionic HL in the mixed-ligand complexes.

IT 364042-14-8

RL: FMU (Formation, unclassified); PRP (Properties); FORM (Formation, nonpreparative)
(elec. potential of couple containing)

RN 364042-14-8 CAPLUS

CN Ruthenium(2+), (2-pyridineethanamine-κN1,κN2)(N-2-pyridinyl-2-pyridinecarboxamidato-κN1,κN2)bis(triphenylphosphine)-, (OC-6-15)- (9CI) (CA INDEX NAME)



IT 364042-05-7P

RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and cyclic voltammetry)

RN 364042-05-7 CAPLUS

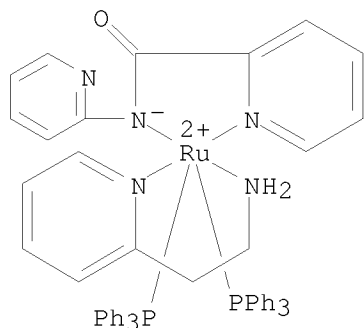
CN Ruthenium(1+), (2-pyridineethanamine-κN1,κN2)(N-2-pyridinyl-2-pyridinecarboxamidato-κN1,κN2)bis(triphenylphosphine)-, (OC-6-15)-, perchlorate (9CI) (CA INDEX NAME)

CM 1

CRN 364042-04-6

CMF C54 H48 N5 O P2 Ru

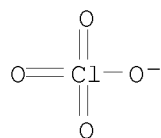
CCI CCS



CM 2

CRN 14797-73-0

CMF C1 04



REFERENCE COUNT: 18 THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 33 OF 72 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2000:277746 CAPLUS

DOCUMENT NUMBER: 133:187175

TITLE: Phosphine-substituted porphyrins as supramolecular building blocks

AUTHOR(S): Darling, Scott L.; Stulz, Eugen; Feeder, Neil; Bampas, Nick; Sanders, Jeremy K. M.

CORPORATE SOURCE: Cambridge Centre for Molecular Recognition, University Chemical Laboratory, Cambridge, CB2 1EW, UK

SOURCE: New Journal of Chemistry (2000), 24(5), 261-264

CODEN: NJCHE5; ISSN: 1144-0546

PUBLISHER: Royal Society of Chemistry

DOCUMENT TYPE: Journal

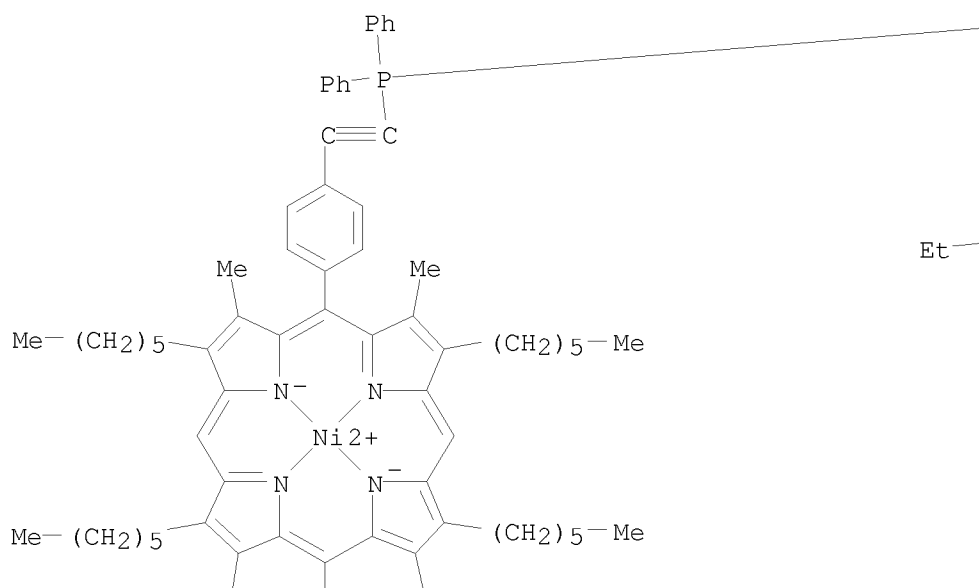
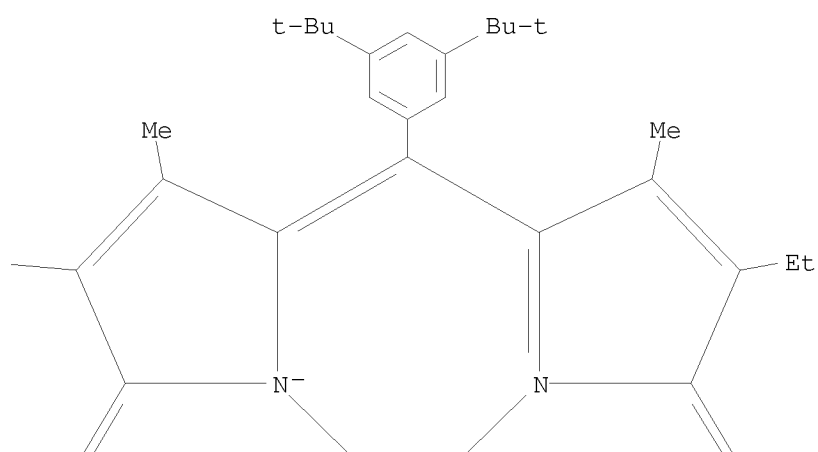
LANGUAGE: English

AB A route to alkyne-phosphine-substituted metalloporphyrins is presented. The x-ray structure of the methanol adduct of a diphenylphosphine Zn(II) porphyrin reveals solid state dimerization accompanied by proton transfer from coordinated methanol to phosphine in a process reminiscent of carbonic anhydrase. The ability of the phosphine-substituted porphyrins to form non-covalent arrays with a Ru(II) porphyrin was explored using ¹H/³¹P NMR and UV/visible spectroscopy as well as MALDI-TOF mass spectrometry. The phosphine porphyrins are capable of forming dimeric and trimeric heterodimetallic porphyrin arrays in solution and contribute new supramol. building blocks exhibiting orthogonal, noncovalent binding motifs when combined with suitable central metals.

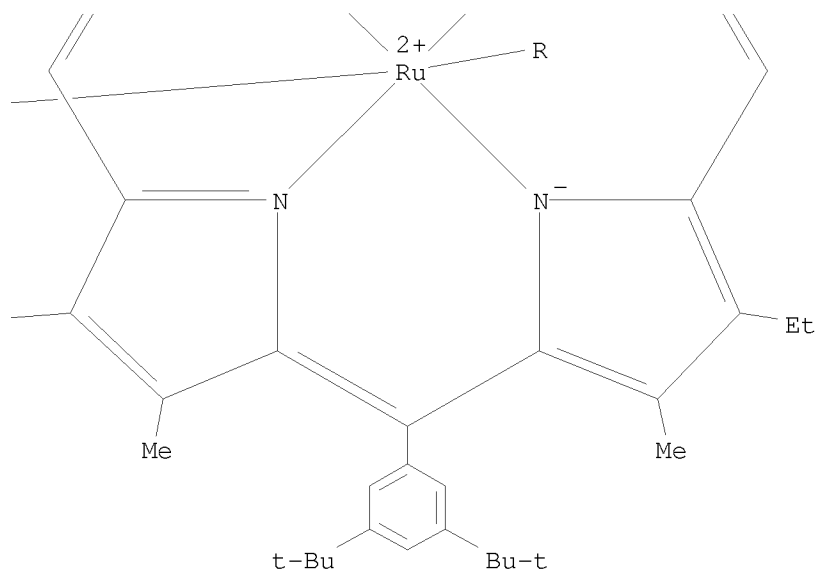
IT 288613-61-6P
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(preparation and NMR of)
RN 288613-61-6 CAPLUS
CN Ruthenium, [5,15-bis[3,5-bis(1,1-dimethylethyl)phenyl]-2,8,12,18-
tetraethyl-3,7,13,17-tetramethyl-21H,23H-porphinato(2-)-
κN21,κN22,κN23,κN24]bis[μ-[5-[3,5-bis(1,1-
dimethylethyl)phenyl]-15-[4-[(diphenylphosphino-κP)ethynyl]phenyl]-
2,8,12,18-tetrahexyl-3,7,13,17-tetramethyl-21H,23H-porphinato(2-)-
κN21,κN22,κN23,κN24]]bis(nickel)- (9CI) (CA INDEX
NAME)

PAGE 1-A

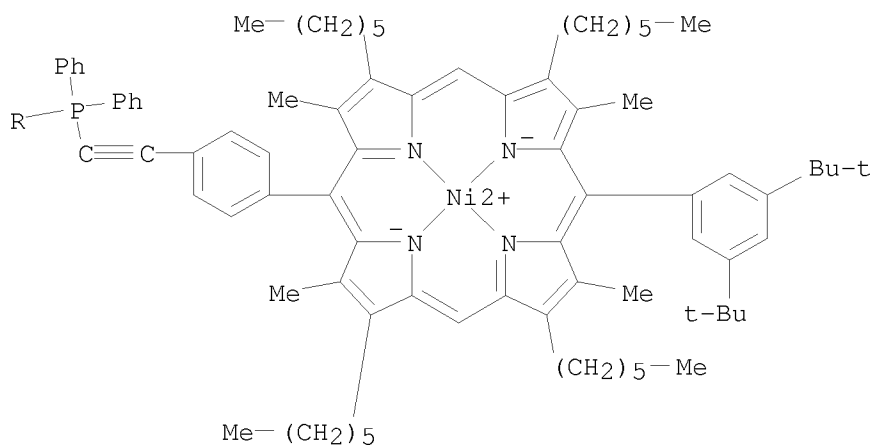
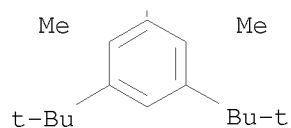
Et—



PAGE 2-B



PAGE 3-A



REFERENCE COUNT: 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 34 OF 72 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1999:220999 CAPLUS
 DOCUMENT NUMBER: 130:320014
 TITLE: Resonance Raman and X-ray Crystallographic Studies of

Intertriad Metal-Metal Bonds. 2. WRu and MoOs Porphyrin Dimers

AUTHOR(S): Collman, James P.; Harford, S. T.; Franzen, Stefan; Shreve, Andrew P.; Woodruff, William H.

CORPORATE SOURCE: Department of Chemistry, Stanford University, Stanford, CA, 94305, USA

SOURCE: Inorganic Chemistry (1999), 38(9), 2093-2097
CODEN: INOCAJ; ISSN: 0020-1669

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

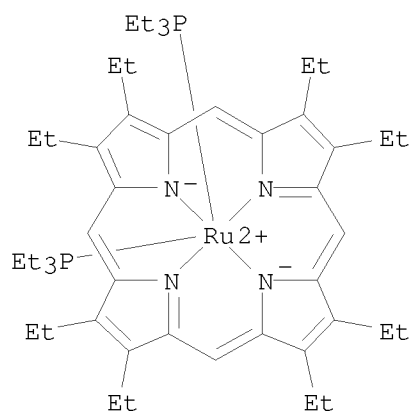
LANGUAGE: English

AB Solution (¹H NMR, Evans method magnetic susceptibility, resonance Raman) and x-ray crystallog. spectroscopic studies of intertriad heterodimeric [(OEP)MoOs(OEP)] (3), [(OEP)WRu(OEP)] (4), [(OEP)MoOs(TPP)]PF₆ (5+), and [(OEP)WRu(TPP)]PF₆ (6+) metalloporphyrins are reported (OEP = 2,3,7,8,12,13,17,18-octaethylporphyrinato; TPP = 5,10,15,20-tetraphenylporphyrinato). Evans method magnetic susceptibility data indicate that 3 and 4 contain two unpaired electrons in the ground electronic configuration. Resonance Raman spectra of 3, 4, 5+, and 6+ suggest that WRu bonds are 5-10% stronger than corresponding MoOs species. Structural characterization of 5+ and 6+ demonstrates metal-metal bond lengths of 2.30 (WRu) and 2.24 (MoOs) Å, resp. The possibility of a special stability associated with polar heterometallic multiple bonds is discussed.

IT 223564-41-8
RL: FMU (Formation, unclassified); FORM (Formation, nonpreparative)
(formation from preparation of porphyrin dimers with intertriad metal-metal bonds)

RN 223564-41-8 CAPLUS

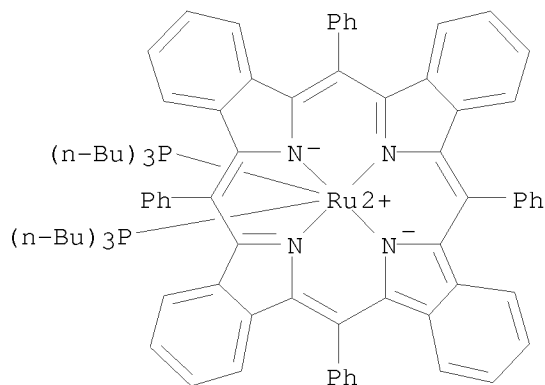
CN Ruthenium, [2,3,7,8,12,13,17,18-octaethyl-21H,23H-porphinato(2-)-κN21,κN22,κN23,κN24]bis(triethylphosphine)-, (OC-6-12)- (CA INDEX NAME)



REFERENCE COUNT: 23 THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 35 OF 72 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1997:303274 CAPLUS
DOCUMENT NUMBER: 126:271326
ORIGINAL REFERENCE NO.: 126:52405a,52408a

TITLE: Spectroscopic and Oxidation Studies of
 meso-Tetraphenyltetrabenzoporphyrin Carbonyl Complexes
 of Ruthenium(II): CO as the Probe to Elucidate the
 Bonding Characteristics of Porphyrins
 AUTHOR(S): Cheng, Ru-Jen; Lin, Shang-Ho; Mo, Hsiao-Mei
 CORPORATE SOURCE: Department of Chemistry, National Chung-Hsing
 University, Taichung, 402, Taiwan
 SOURCE: Organometallics (1997), 16(10), 2121-2126
 CODEN: ORGND7; ISSN: 0276-7333
 PUBLISHER: American Chemical Society
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB The carbonyl complex of (meso-
 tetraphenyltetrabenzoporphyrinato)ruthenium(II), Ru(TPTBP)(CO), was
 synthesized and characterized by FABMS, UV/visible, ¹H NMR, and IR
 spectroscopy. Six-coordinate complexes Ru(TPTBP)(CO)(L) with different
 π -bonding-capability ligands (L = NEt₃, pip, 1-MeIm, py, PBu₃)
 coordinated trans to CO were studied. The shifts in ν CO for this
 series of complexes are consistent with the existence of M \rightarrow CO
 π -back-bonding. In contrast to what would be expected by nitrogen
 basicity, ν CO values for Ru(TPTBP)(CO), Ru(TPP)(CO), and Ru(OEP)(CO)
 are 1959, 1930, and 1917 cm⁻¹, resp. This result suggests that TPTBP
 should be both a better σ -donor and a better π -acceptor than
 normal porphyrin systems (P). Oxidation studies of Ru(TPTBP)(CO),
 Ru(TPTBP)(CO)(py), and Ru(TPTBP)(py)₂ were carried out both electrochem.
 and chemical ¹H NMR, ESR, and electronic spectroscopic studies suggest that
 there are two different types of oxidation products. The sites of oxidation
 should both be on the porphyrin ring to give two different types of
 ruthenium(II) porphyrin π -cation radicals [RuII(TPTBP)•+(L)(L')]X
 of A_{1u} and A_{2u} character, resp. In marked contrast to other ruthenium
 porphyrins reported in the literature, extraplanar ligands in the
 Ru(TPTBP) system do not affect the site of oxidation (metal vs. ring) but
 only mediate the level of oxidation on the ring (a_{1u} vs. a_{2u}). These results
 can be ascribed to the extended π -system and the ring deformation of
 the TPTBP porphyrin macrocycle and are also consistent with the fact that
 TPTBP is a stronger π -acceptor than other porphyrin systems.
 IT 188797-48-0P
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (preparation, NMR and electronic spectra)
 RN 188797-48-0 CAPLUS
 CN Ruthenium, [6,13,20,27-tetraphenyl-29H,31H-tetrabenzo[b,g,l,q]porphinato(2-
)-κN29,κN30,κN31,κN32]bis(tributylphosphine)-,
 (OC-6-12)- (9CI) (CA INDEX NAME)



L6 ANSWER 36 OF 72 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1997:120596 CAPLUS

DOCUMENT NUMBER: 126:206737

ORIGINAL REFERENCE NO.: 126:39822h,39823a

TITLE: Arylimido complexes of ruthenium(IV) porphyrins

AUTHOR(S): Leung, Wa-Hung; Hun, Tom S. M.; Hou, Hong-Wei; Wong, Kwok-Yin

CORPORATE SOURCE: Department of Chemistry, The Hong University of Science and Technology, Kowloon, Hong Kong

SOURCE: Journal of the Chemical Society, Dalton Transactions: Inorganic Chemistry (1997), (2), 237-243
CODEN: JCDBTI; ISSN: 0300-9246

PUBLISHER: Royal Society of Chemistry

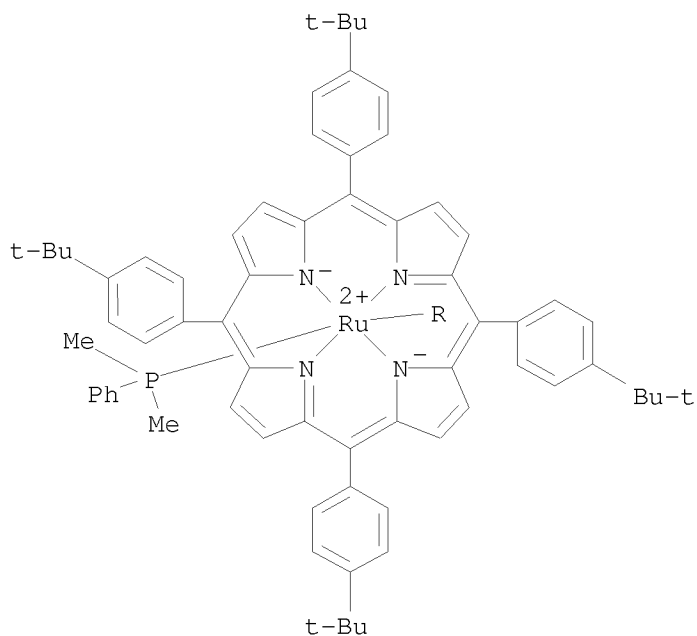
DOCUMENT TYPE: Journal

LANGUAGE: English

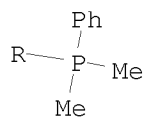
AB Treatment of [Ru(tbpp)O₂] [H₂tbpp = 5,10,15,20-tetrakis(p-tert-butylphenyl)porphyrin] with SiMe₃Cl gave [Ru(tbpp)Cl₂] in good yield. Reaction of [Ru(tbpp)Cl₂] with p-substituted anilines NRH₂ (R = p-XC₆H₄ where X = Me, H, Cl or I) afforded the 1st arylimidoruthenium(IV) complexes [Ru(tbpp)(NR)]. These are paramagnetic with μ_{eff} ca. 2.8 μ_{B} and display ¹H NMR spectra that are typical for paramagnetic Ru(IV) porphyrins. The cyclic voltammograms of [Ru(tbpp)(NR)] exhibit reversible RuV-RuIV and RuIV-RuIII couples. Treatment of [Ru(tbpp)(NR)] with AgI or CeIV afforded the imidoruthenium(V) complex [Ru(tbpp)(NR)]⁺. [Ru(tbpp)(NR)] underwent imido-group transfer reactions with tertiary phosphines to give [Ru(tbpp)(PR'₃)₂] and RN=PR'₃. The reduction of [Ru(tbpp)(NR)] by PMe₂Ph shows saturation kinetics, in which the rate is 1st order in [RuIV]. The mechanism proposed for the Ru-mediated imido transfer involves reversible binding of phosphine to RuIV and rate-limiting intramol. imido-group transfer. The 1st-order rate constant (k₁) and phosphine binding constant (K) and for the reduction of [Ru(tbpp)(NC₆H₄Me-p)] by PMe₂Ph at 25.0° in toluene solution are (6.86 ± 0.19) × 10⁻⁴ s⁻¹ and (23.6 ± 6.5) × 10³ mol dm⁻³, resp. The activation enthalpy and entropy for the above reaction are 125 ± 1 kJ mol⁻¹ and 113 ± 21 J K⁻¹ mol⁻¹, resp. For the reduction of p-X-substituted arylimido complexes [Ru(tbpp)(NC₆H₄X-p)] by tertiary PMe₂Ph the rate decreases in the order X = I > H ≈ Cl > Me. The imido transfer from [RuV(tbpp)(NC₆H₄Me-p)]⁺ to PMe₂Ph is

.apprx.60 times faster than that from [RuIV(tbpp)(NC₆H₄Me-p)].
 IT 187801-61-2P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of)
 RN 187801-61-2 CAPLUS
 CN Ruthenium, bis(dimethylphenylphosphine) [5,10,15,20-tetrakis[4-(1,1-dimethylethyl)phenyl]-21H,23H-porphinato(2-)-
 κN21,κN22,κN23,κN24]-, (OC-6-12)- (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



REFERENCE COUNT: 49 THERE ARE 49 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 37 OF 72 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1996:26974 CAPLUS
 DOCUMENT NUMBER: 124:163217
 ORIGINAL REFERENCE NO.: 124:29959a,29962a
 TITLE: Novel NMR aspects of tertiary phosphine complexes of Ru(II) etioporphyrin I
 AUTHOR(S): LIcoccia, Silvia; Paci, Maurizio; Paolesse, Roberto

CORPORATE SOURCE: Dipartimento di Scienze e Tecnologie Chimiche,
Universita di Roma Tor Vergata, Rome, I-00133, Italy

SOURCE: Magnetic Resonance in Chemistry (1995), 33(12), 954-8
CODEN: MRCHEG; ISSN: 0749-1581

PUBLISHER: Wiley

DOCUMENT TYPE: Journal

LANGUAGE: English

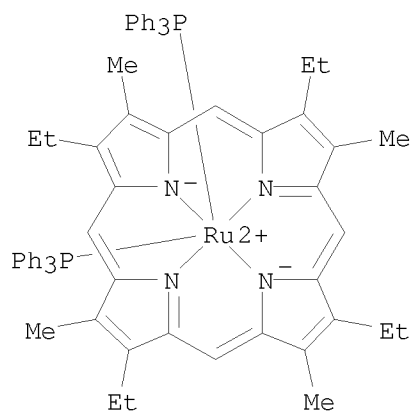
AB The synthesis and characterization of hexacoordinated Ru complexes of
etioporphyrin I (EP) [(EP)RuL₂] (L = tertiary phosphine) and of the
pentacoordinated complex [(EP)Ru(PPh₃)] are reported. The multiplicity
observed in the ¹H NMR spectra of complexes is discussed from the steric
interactions between the axial ligands and the macrocycle.

IT 173612-24-3P 173612-25-4P 173612-26-5P
173612-27-6P

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(preparation and NMR of)

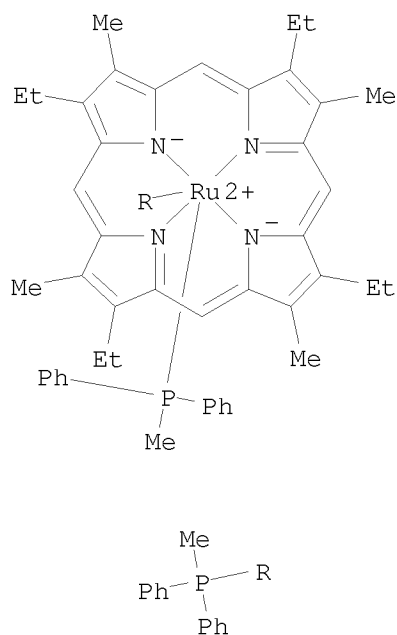
RN 173612-24-3 CAPLUS

CN Ruthenium, [2,7,12,17-tetraethyl-3,8,13,18-tetramethyl-21H,23H-
porphinato(2-)-N21,N22,N23,N24]bis(triphenylphosphine)-, (OC-6-12)- (9CI)
(CA INDEX NAME)

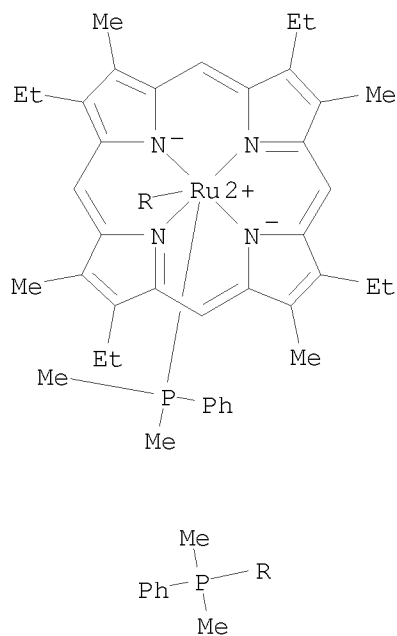


RN 173612-25-4 CAPLUS

CN Ruthenium, bis(methyldiphenylphosphine)[2,7,12,17-tetraethyl-3,8,13,18-
tetramethyl-21H,23H-porphinato(2-)-N21,N22,N23,N24]-, (OC-6-12)- (9CI)
(CA INDEX NAME)



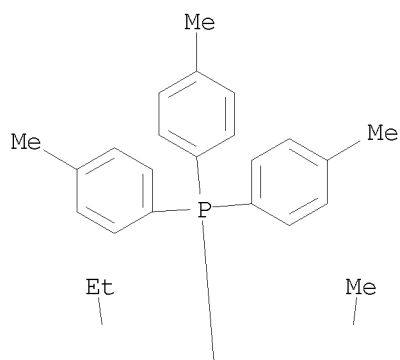
RN 173612-26-5 CAPLUS
 CN Ruthenium, bis(dimethylphenylphosphine)[2,7,12,17-tetraethyl-3,8,13,18-tetramethyl-21H,23H-porphinato(2-)-N21,N22,N23,N24]-, (OC-6-12)- (9CI)
 (CA INDEX NAME)

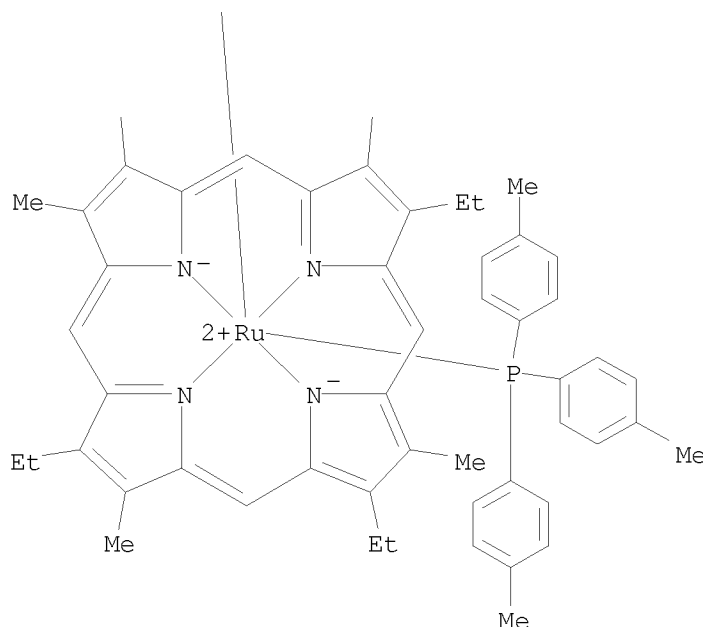


RN 173612-27-6 CAPLUS
 CN Ruthenium, [2,7,12,17-tetraethyl-3,8,13,18-tetramethyl-21H,23H-

porphinato(2-)-N21,N22,N23,N24]bis[tris(4-methylphenyl)phosphine]-,
(OC-6-12)- (9CI) (CA INDEX NAME)

PAGE 1-A





L6 ANSWER 38 OF 72 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1995:752399 CAPLUS

DOCUMENT NUMBER: 123:303715

ORIGINAL REFERENCE NO.: 123:54159a, 54162a

TITLE: Transient photocurrent based on photoinduced electron transfer processes in flavin-porphyrin hetero Langmuir-Blodgett monolayers

AUTHOR(S): Akiyama, Kouichi; Nishikawa, Satoshi; Ueyama, Satoshi; Isoda, Satoru

CORPORATE SOURCE: Central Res. Lab., Mitsubishi Elec. Corp., Hyogo, 661, Japan

SOURCE: Japanese Journal of Applied Physics, Part 1: Regular Papers, Short Notes & Review Papers (1995), 34(7B), 3942-6

CODEN: JAPNDE; ISSN: 0021-4922

PUBLISHER: Japanese Journal of Applied Physics

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Dynamic processes of photoinduced electron transfer in flavin-porphyrin hetero Langmuir-Blodgett monolayers, which are characterized both by the electronic properties of functional groups and by the structure of mol. organization, have been studied in terms of transient photocurrent properties. From an anal. of transient photocurrent with a kinetic model based on the organic quantum well structure, we can conclude that the photocarrier generation process is mainly due to charge separation from photoexcited flavin to porphyrin at the flavin-porphyrin mol. heterojunction, and that the charge shift in monolayers and charge transfer between monolayers and an electrode are controlled by applied elec. field.

IT 137164-58-0

RL: PEP (Physical, engineering or chemical process); PRP (Properties);

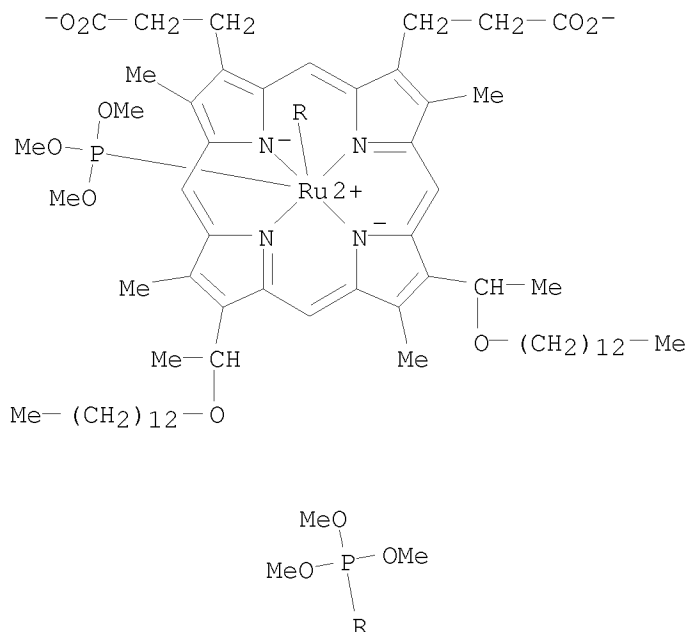
PROC (Process)

(transient photocurrent based on photoinduced electron transfer processes in flavin-porphyrin hetero Langmuir-Blodgett monolayers)

RN 137164-58-0 CAPLUS

CN Ruthenate(2-), [3,7,12,17-tetramethyl-8,13-bis[1-(tridecyloxy)ethyl]-21H,23H-porphine-2,18-dipropanoato(4-)-N21,N22,N23,N24]bis(trimethyl phosphite-P)-, dihydrogen, (OC-6-13)-(9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A

● 2 H⁺

L6 ANSWER 39 OF 72 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1995:746775 CAPLUS

DOCUMENT NUMBER: 123:159432

ORIGINAL REFERENCE NO.: 123:28079a,28082a

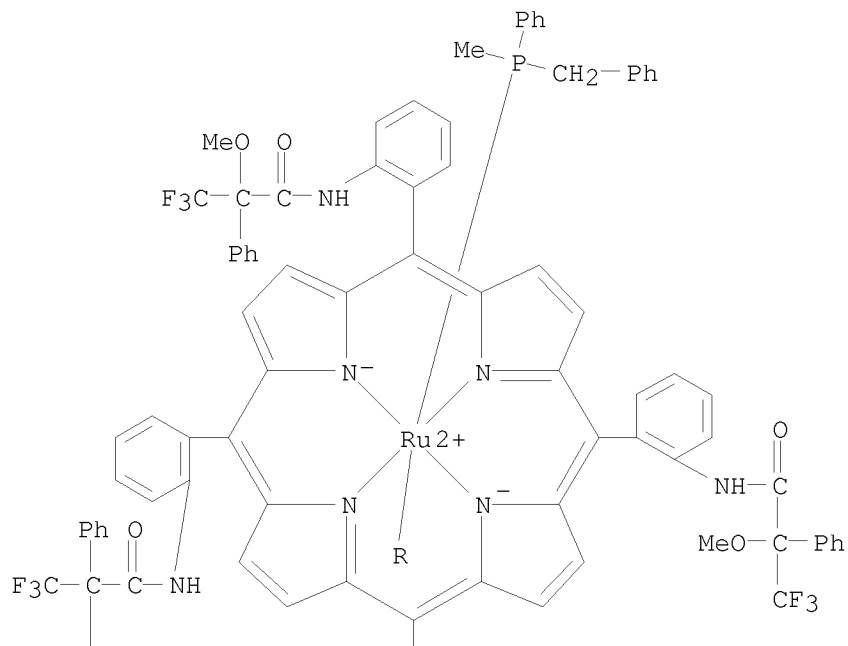
TITLE: Enantioselective Oxidation of Racemic Phosphines with Chiral Oxoruthenium Porphyrins and Crystal Structure of [5,10,15,20-Tetrakis[o-((2-methoxy-2-phenyl-3,3,3-trifluoropropanoyl)amino)phenyl]porphyrinato](carbonyl)(tetrahydrofuran) ruthenium(II) ($\alpha,\beta,\alpha,\beta$ Isomer)

AUTHOR(S): Le Maux, Paul; Bahri, Hassan; Simonneaux, Gerard; Toupet, Loic

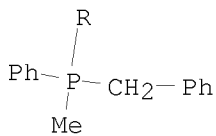
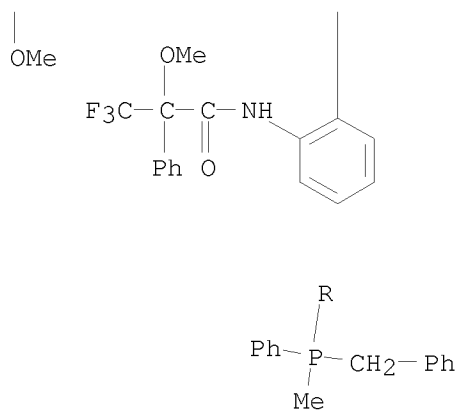
CORPORATE SOURCE: Laboratoire de Chimie Organometallique et Biologique,

SOURCE: Universite de Rennes 1, Rennes, 35042, Fr.
 Inorganic Chemistry (1995), 34(18), 4691-7
 CODEN: INOCAJ; ISSN: 0020-1669
 PUBLISHER: American Chemical Society
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB The synthesis of dioxoruthenium(VI) picket-fence complexes bearing optically active α -methoxy- α -(trifluoromethyl)phenylacetyl residues on both sides of the porphyrin plane ($\alpha,\beta,\alpha,\beta$ and $\alpha,\alpha,\beta,\beta$ isomers) are described. These chiral porphyrins were characterized by UV-visible, IR, and ^1H , ^{13}C , and ^{19}F NMR spectroscopy. For benzylmethylphenylphosphine a chiral recognition was observed for the O-atom transfer to P yielding optically active phosphine oxide with 41% enantiomeric excess. A mechanism for phosphine oxidation involving kinetic resolution to give an oxoruthenium(IV) intermediate is proposed. An x-ray crystal structure determination of the $\text{Ru}(\text{CO})$ complex of the $\alpha,\beta,\alpha,\beta$ isomer was carried out: orthorhombic, space group $P2_12_12_1$, a 14.481(3), b 22.729(6), c 25.491(6) Å, V = 8390(3) Å³, Z = 4, DX = 1.37 Mg m⁻³, λ (Mo $K\alpha$) = 0.709 26 Å, μ = 2.68 cm⁻¹, $F(000)$ = 3544, T = 293 K, final R = 0.070 for 4198 observations.
 IT 137767-28-3
 RL: FMU (Formation, unclassified); FORM (Formation, nonpreparative) (formation in stereoselective oxidation of phosphine by ruthenium dioxo tetrakis[((methoxyphenyltrifluoropropanoyl)amino)phenyl]porphyrin enantiomer)
 RN 137767-28-3 CAPLUS
 CN Ruthenium, bis[methylphenyl(phenylmethyl)phosphine][[N,N',N'',N'''-(21H,23H-porphine-5,10,15,20-tetrayltetra-2,1-phenylene)tetrakis[α -methoxy- α -(trifluoromethyl)benzeneacetamido]](2-)-N21,N22,N23,N24]-, stereoisomer (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



L6 ANSWER 40 OF 72 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1995:673927 CAPLUS
 DOCUMENT NUMBER: 123:72679
 ORIGINAL REFERENCE NO.: 123:12645a,12648a
 TITLE: Functional plastic element
 INVENTOR(S): Isoda, Satoru; Kawakubo, Hiroaki; Nishikawa, Satoshi;
 Akiyama, Kouichi
 PATENT ASSIGNEE(S): Mitsubishi Denki K.K., Japan
 SOURCE: Ger. Offen., 27 pp.

CODEN: GWXXBX
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 4423782	A1	19950112	DE 1994-4423782	19940630
DE 4423782	C2	19960711		
JP 07022669	A	19950124	JP 1993-163526	19930701
US 5883397	A	19990316	US 1997-862741	19970523
PRIORITY APPLN. INFO.:			JP 1993-163526	A 19930701
			US 1994-265248	B1 19940624

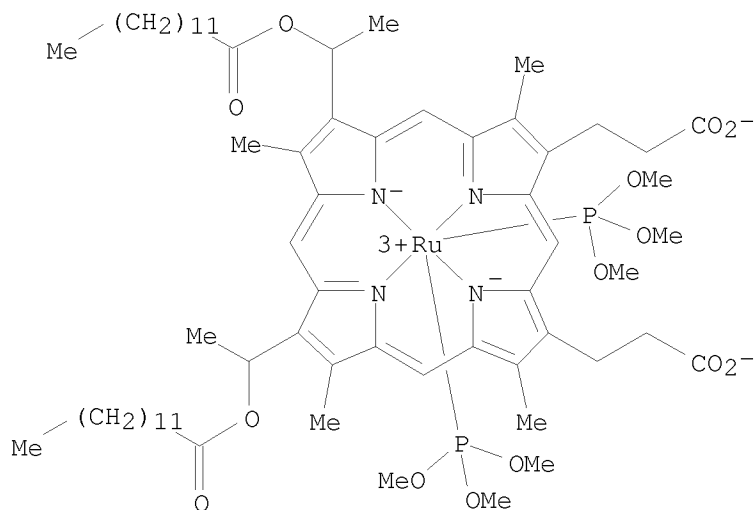
AB The element comprises 2 membranes of different oxidation-reduction materials having different redox potentials, a lower electrode, and a transparent upper electrode. Based on the difference in redox potentials, the electron state in ≥ 1 of the redox materials is controlled by irradiating the interface between the membranes with light or by applying a voltage to the electrodes. Information from the incident light or applied voltage can be stored in the device, which is very small and makes it possible to achieve high d. and high speed of operation.

IT 164849-17-6
 RL: DEV (Device component use); USES (Uses)
 (functional elements having redox membranes from)

RN 164849-17-6 CAPLUS

CN Ruthenate(1-), [3,7,12,17-tetramethyl-8,13-bis[1-[(1-oxotridecyl)oxy]ethyl]-21H,23H-porphine-2,8-dipropionato(4-)-N21,N22,N23,N24]bis(trimethyl phosphite-P)-, hydrogen bromide (1:2:1), (OC-6-12)- (9CI) (CA INDEX NAME)

PAGE 1-A





L6 ANSWER 41 OF 72 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1994:547619 CAPLUS

DOCUMENT NUMBER: 121:147619

ORIGINAL REFERENCE NO.: 121:26413a, 26416a

TITLE: Preparation, characterization and reaction of the first dioxoruthenium(VI) complexes of chiral picket-fence porphyrins

AUTHOR(S): Le Maux, Paul; Bahri, Hassan; Simonneaux, Gerard

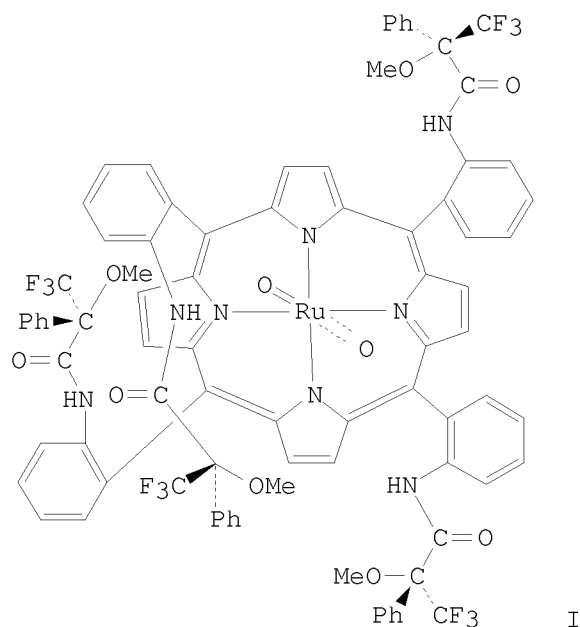
CORPORATE SOURCE: Laboratoire Chimie Organometallique Biologique, Universite Rennes 1, Rennes, 35042, Fr.

SOURCE: Journal of the Chemical Society, Chemical Communications (1994), (11), 1287-8
CODEN: JCCCAT; ISSN: 0022-4936

DOCUMENT TYPE: Journal

LANGUAGE: English

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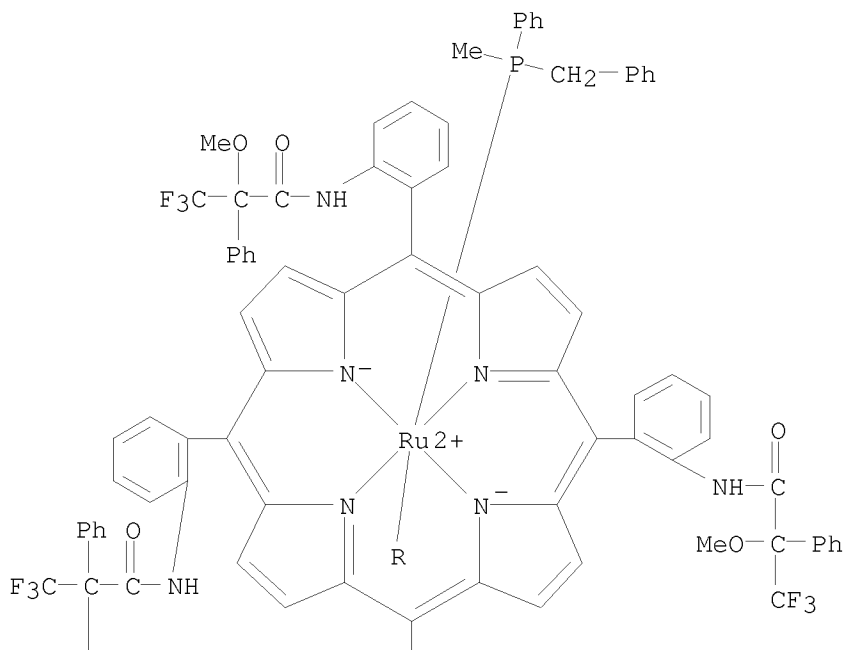
AB The preparation and characterization of dioxoruthenium(VI) picket-fence complexes bearing optically active α -methoxy- α -(trifluoromethyl)phenylacetyl residues on both sides of the porphyrin plane ($\alpha,\beta,\alpha,\beta$ as shown in I and $\alpha,\alpha,\beta,\beta$ isomers) are reported. I oxidizes racemic benzyl(methyl)(phenyl)phosphine to give optically active phosphine oxide (enantiomeric excess 41%) and proceeds with retention of the configuration of the P atom.

IT 137681-43-7P 137767-27-2P 137767-28-3P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of)

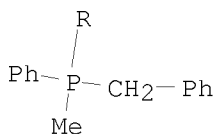
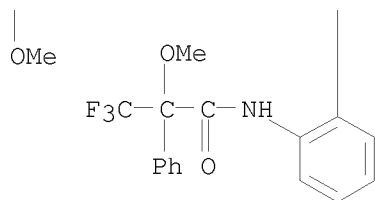
RN 137681-43-7 CAPLUS

CN Ruthenium, bis[methylphenyl(phenylmethyl)phosphine][[N,N',N'',N'''-(21H,23H-porphine-5,10,15,20-tetrayltetra-2,1-phenylene)tetrakis[α -methoxy- α -(trifluoromethyl)benzeneacetamido]](2-)-N21,N22,N23,N24]-, stereoisomer (9CI) (CA INDEX NAME)

PAGE 1-A

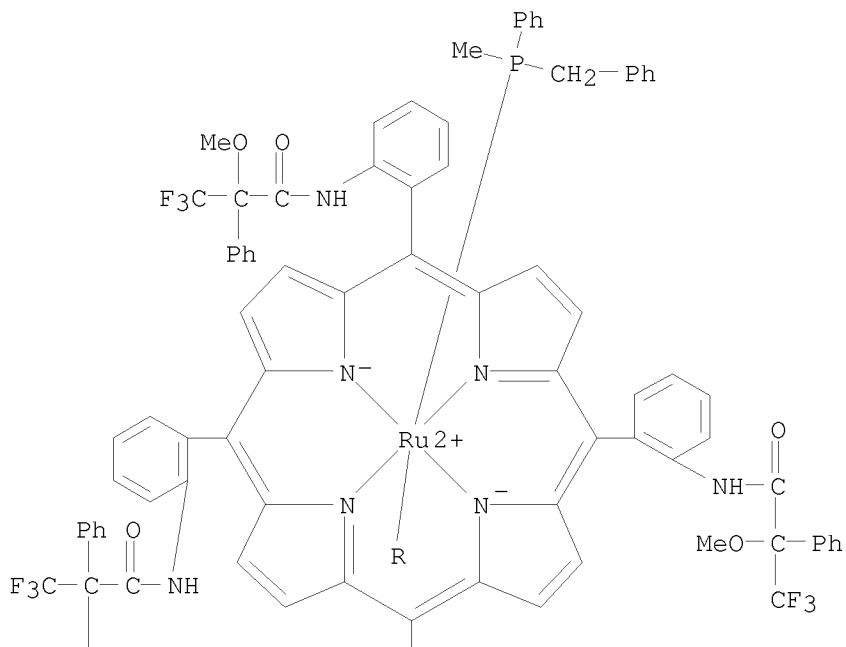


PAGE 2-A

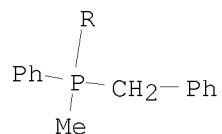
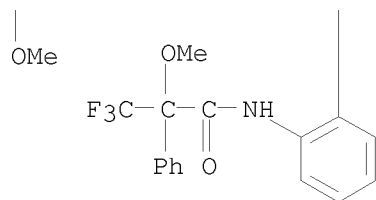


RN 137767-27-2 CAPLUS
 CN Ruthenium, bis[methylphenyl(phenylmethyl)phosphine][[N,N',N'',N'''-(21H,23H-porphine-5,10,15,20-tetrayltetra-2,1-phenylene)tetrakis[α-methoxy-α-(trifluoromethyl)benzeneacetamido]](2-)-N21,N22,N23,N24]-, stereoisomer (9CI) (CA INDEX NAME)

PAGE 1-A

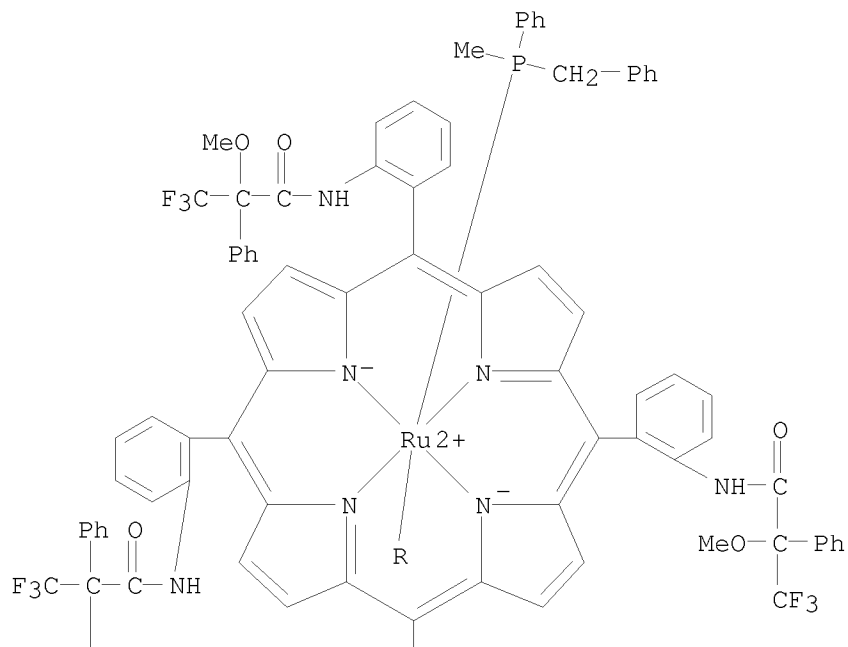


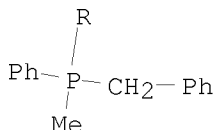
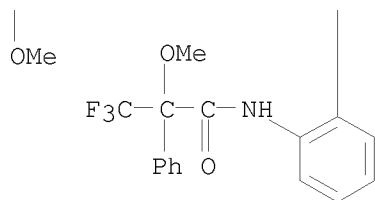
PAGE 2-A



RN 137767-28-3 CAPLUS
 CN Ruthenium, bis[methylphenyl(phenylmethyl)phosphine][[N,N',N'',N'''-(21H,23H-porphine-5,10,15,20-tetra-2,1-phenylene)tetrakis[α-methoxy-α-(trifluoromethyl)benzeneacetamido]](2-)-N21,N22,N23,N24]-, stereoisomer (9CI) (CA INDEX NAME)

PAGE 1-A





L6 ANSWER 42 OF 72 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1994:21652 CAPLUS
 DOCUMENT NUMBER: 120:21652
 ORIGINAL REFERENCE NO.: 120:3905a
 TITLE: Organic electric-field switching device
 INVENTOR(S): Hanazato, Yoshio; Isoda, Satoru; Ueyama, Satoshi;
 Nishikawa, Satoshi
 PATENT ASSIGNEE(S): Mitsubishi Denki K. K., Japan
 SOURCE: Eur. Pat. Appl., 14 pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

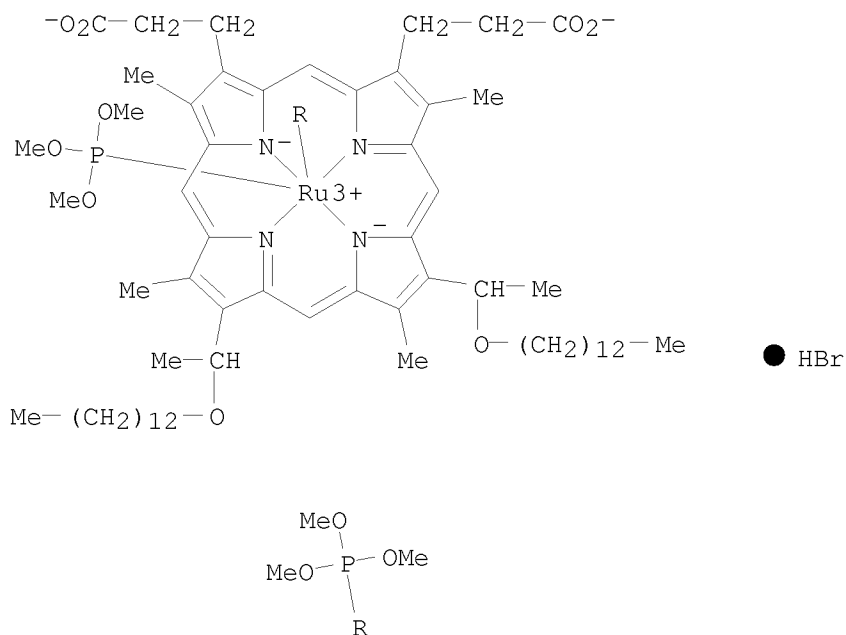
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 546665	A2	19930616	EP 1992-309581	19921020
EP 546665	A3	19931110		
EP 546665	B1	19961218		
R: DE, FR, GB				
JP 05160150	A	19930625	JP 1991-324739	19911209
JP 3014519	B2	20000228		
JP 05347402	A	19931227	JP 1992-153798	19920612
US 5349203	A	19940920	US 1992-963139	19921019
PRIORITY APPLN. INFO.:			JP 1991-324739	A 19911209
			JP 1992-153798	A 19920612

AB The device has transparent or semitransparent upper electrodes and a 2nd insulating film so as to bias an elec. field on a heterojunction membrane formed on a lower electrode, in which the doping speed of a carrier is fast, and the switching device can be operated as a solid-state device and can be easily formed on a semiconductor made of Si and the like. The degree of integration of the device can be rapidly increased due to its multilayered structure.

IT 151893-04-8
 RL: USES (Uses)
 (switching devices containing layers of)
 RN 151893-04-8 CAPLUS

CN Ruthenate(1-), [3,7,12,17-tetramethyl-8,13-bis[1-(tridecyloxy)ethyl]-21H,23H-porphine-2,18-dipropionato(4-)- κ N21, κ N22, κ N23, κ N24]bis(trimethyl phosphite- κ P)-, hydrogen, monohydrobromide, (OC-6-13)- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A

● H⁺

L6 ANSWER 43 OF 72 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1992:502974 CAPLUS
 DOCUMENT NUMBER: 117:102974
 ORIGINAL REFERENCE NO.: 117:17687a,17690a
 TITLE: Synthesis and structural characterization of ruthenium(II) complexes of histidine and methionine derivatives
 AUTHOR(S): Sheldrick, W. S.; Exner, R.
 CORPORATE SOURCE: Ruhr-Univ. Bochum, Bochum, D-4630, Germany
 SOURCE: Inorganica Chimica Acta (1992), 195(1), 1-9
 CODEN: ICHAA3; ISSN: 0020-1693
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB [RuCl(L-his)(diene)] (1; L-hisH = histidine; diene = norbornadiene, cyclooctadiene) were prepared by reaction of [RuCl2(dien)]n with L-hisH in

aqueous solution at reflux. An x-ray anal. of 1 (diene = norbornadiene) established that histidinate is present as a facial tridentate ligand with the amino N sited trans to Cl. Reaction of $[\text{RuCl}_2(\text{PPh}_3)_3]$ with D,L-histidine in MeOH at reflux leads to $[\text{RuCl}(\text{D,L-his})(\text{PPh}_3)_2]$ (3), which also contains a facially coordinated tridentate histidinate ligand (x-ray anal.). In contrast to 1, the coordinating imidazole N is now in trans position to the Cl atom. $[\text{RuCl}_2(\text{L-hisme})(\text{PPh}_3)_2]$ (4; L-hisme = Me L-histidinate), $[\text{RuCl}(\text{D,L-met})(\text{PPh}_3)_2] \cdot \text{CH}_3\text{OH}$ (5; D,L-metH = D,L-methionine) and $[\text{RuCl}(\text{L-metme})_2(\text{PPh}_3)]\text{Cl} \cdot \text{PPh}_3$ (6; metme = Me L-methionate) were characterized by spectroscopic studies and for 6 by an x-ray structural anal. In the latter bis-chelate complex the thioether S atoms adopt coordination sites trans to an amino N and the PPh_3 P, resp. In aqueous or methanolic solution 6 is readily oxidized by traces of O. $[\text{RuCl}_3(\text{L-metet})(\text{PPh}_3)]$ (7; L-metet = L-methionine Et ester) was characterized by x-ray anal. The electrochem. of 4 and 7 has been studied.

IT 142881-92-3P

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(preparation and crystal structure of)

RN 142881-92-3 CAPLUS

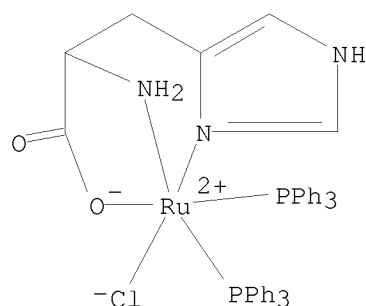
CN Ruthenium, chloro(L-histidinato-N,N3,O)bis(triphenylphosphine)-,
(OC-6-45-C)-, compd. with methanol (2:3) (9CI) (CA INDEX NAME)

CM 1

CRN 142881-91-2

CMF C42 H38 Cl N3 O2 P2 Ru

CCI CCS



CM 2

CRN 67-56-1

CMF C H4 O

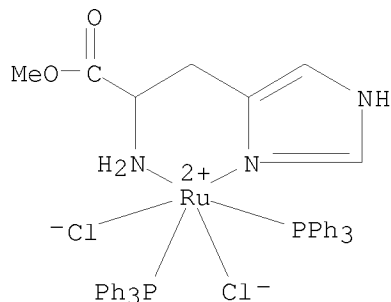
H3C-OH

IT 142881-93-4P

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(preparation and cyclic voltammetry of)

RN 142881-93-4 CAPLUS

CN Ruthenium, dichloro(methyl L-histidinate-N,N3)bis(triphenylphosphine)-,
(OC-6-32)- (9CI) (CA INDEX NAME)



L6 ANSWER 44 OF 72 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1992:247335 CAPLUS

DOCUMENT NUMBER: 116:247335

ORIGINAL REFERENCE NO.: 116:41705a, 41708a

TITLE: Porphyrin metal complex and its preparation

INVENTOR(S): Isoda, Satoru; Kamiyama, Tomotsugu; Kawakubo, Hiroaki

PATENT ASSIGNEE(S): Mitsubishi Electric Corp., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 12 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 02255691	A	19901016	JP 1989-79235	19890329
JP 2883348	B2	19990419		
PRIORITY APPLN. INFO.:			JP 1989-79235	19890329
OTHER SOURCE(S):	MARPAT	116:247335		

GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB The title complex and its alkali metal salt, I, [M = M1X, M1XY, M1XYZ; M1 = Fe, Ru; X, Y, Z = halo, CO, OCOMe, pyridine, imidazole, P(OR)3, PR3; R = C1-4 lower alkyl; m, n = 5-20) are claimed. These complexes are prepared by treating protoporphyrin di-Me ester II with HBr-AcOH in CH2Cl2, etherifying with CnH2n+1OH (n = 5-20), and hydrolyzing. The electron-transferring complex is useful for Langmuir-Blodgett films and as an electrode-modifying agent.

IT 137209-70-2P

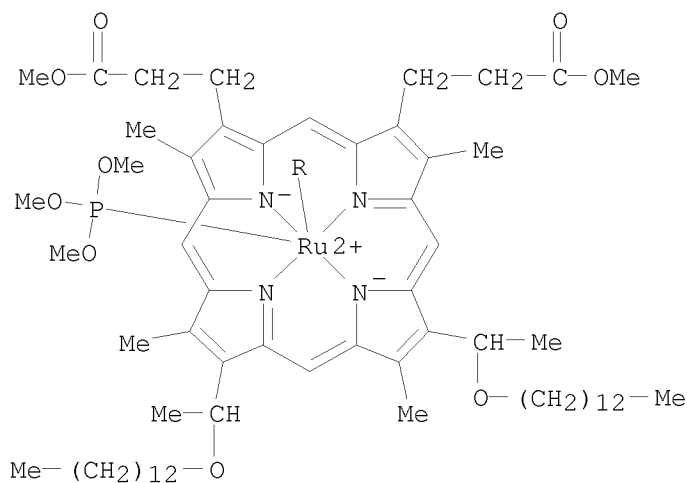
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation and reaction of)

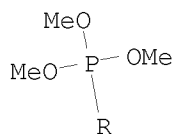
RN 137209-70-2 CAPLUS

CN Ruthenium, [dimethyl 3,7,12,17-tetramethyl-8,13-bis[1-(tridecyloxy)ethyl]-21H,23H-porphine-2,18-dipropionato(2-)-N21,N22,N23,N24]bis(trimethyl phosphite-P)-, (OC-6-13)- (9CI) (CA INDEX NAME)

PAGE 1-A

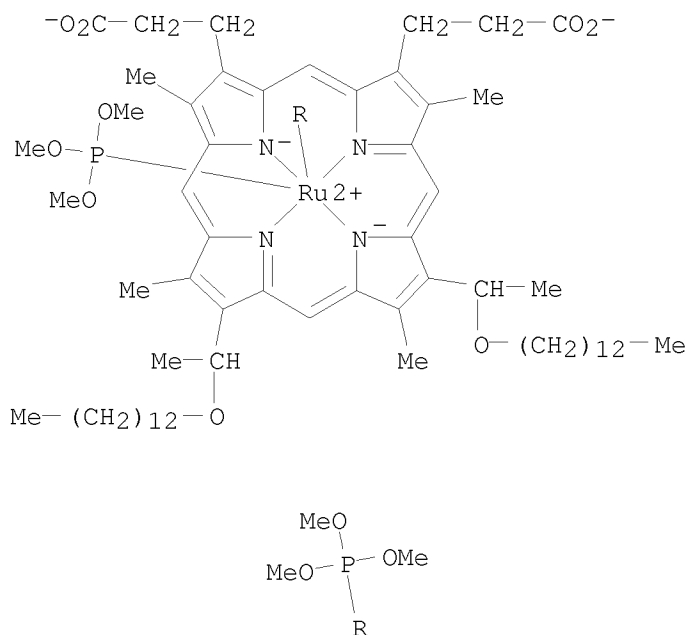


PAGE 2-A



IT 137164-58-0P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of, electron-transferring)
 RN 137164-58-0 CAPLUS
 CN Ruthenate(2-), [3,7,12,17-tetramethyl-8,13-bis[1-(tridecyloxy)ethyl]-21H,23H-porphine-2,18-dipropionato(4-)-N21,N22,N23,N24]bis(trimethyl phosphite-P)-, dihydrogen, (OC-6-13)- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A

● 2 H⁺

L6 ANSWER 45 OF 72 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1992:14770 CAPLUS

DOCUMENT NUMBER: 116:14770

ORIGINAL REFERENCE NO.: 116:2503a,2506a

TITLE: Molecular recognition of racemic phosphines by a chiral ruthenium porphyrin

AUTHOR(S): Le Maux, Paul; Bahri, Hassan; Simonneaux, Gerard

CORPORATE SOURCE: Lab. Chim. Organomet. Biol., Univ. Rennes I, Rennes, 35042, Fr.

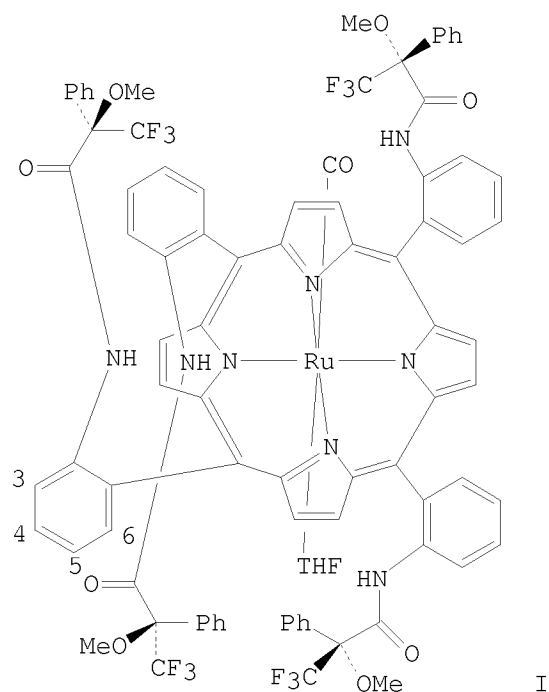
SOURCE: Journal of the Chemical Society, Chemical Communications (1991), (19), 1350-2

CODEN: JCCCAT; ISSN: 0022-4936

DOCUMENT TYPE: Journal

LANGUAGE: English

GI



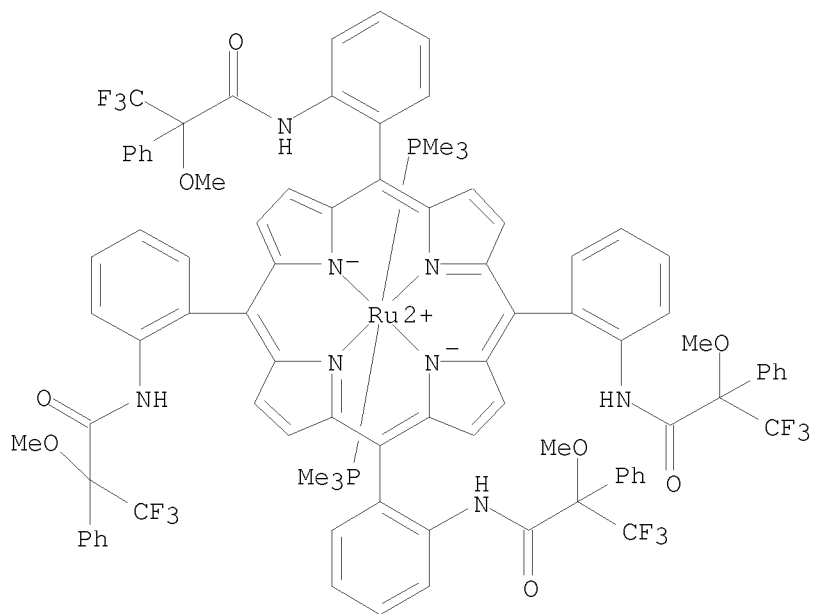
AB The preparation of ruthenium 'picket-fence' porphyrins bearing optically active α -methoxy- α -(trifluoromethyl)phenylacetyl residues on both sides of the porphyrin plane is described; chiral recognition in the complexation of racemic benzylmethylphenylphosphine to the $\alpha,\beta,\alpha,\beta$ isomer I leads to the formation of one of three possible product diastereoisomers with high stereoselectivity (>95%).

IT 137681-41-5P

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(preparation and multinuclear NMR of)

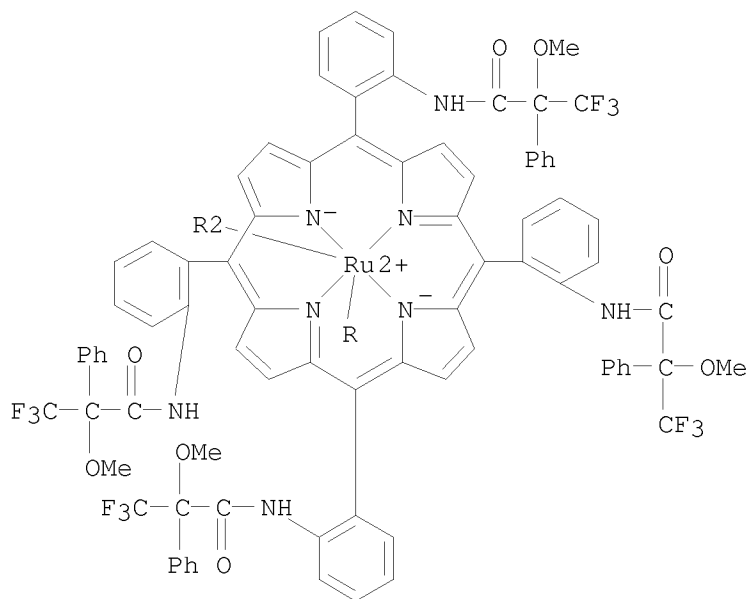
RN 137681-41-5 CAPLUS

CN Ruthenium, [[N,N',N'',N'''-(21H,23H-porphine-5,10,15,20-tetrayltetra-2,1-phenylene)tetrakis[α -methoxy- α -(trifluoromethyl)benzeneacetamido]](2-)-N21,N22,N23,N24]bis(trimethylphosphine)-, stereoisomer (9CI) (CA INDEX NAME)

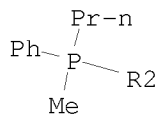
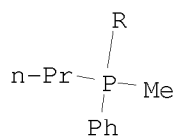


IT 137681-42-6P 137681-43-7P 137766-46-2P
 137767-25-0P 137767-27-2P 137767-28-3P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of)
 RN 137681-42-6 CAPLUS
 CN Ruthenium, bis(methyldipropylphosphine) [[N,N',N'',N'''-(21H,23H-porphine-5,10,15,20-tetrayltetra-2,1-phenylene)tetrakis[α-methoxy-α-(trifluoromethyl)benzeneacetamido]](2-)-N21,N22,N23,N24]-, stereoisomer (9CI) (CA INDEX NAME)

PAGE 1-A



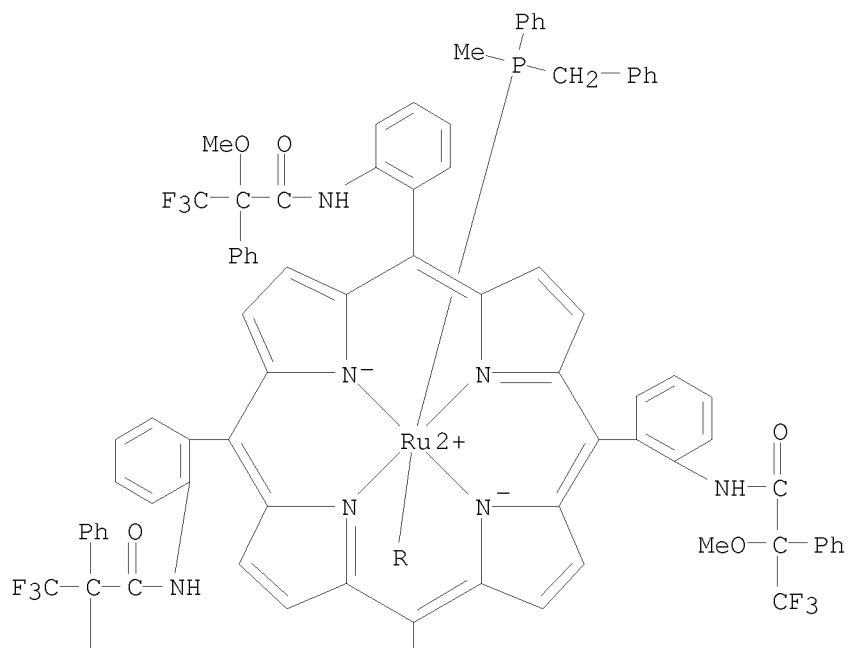
PAGE 2-A



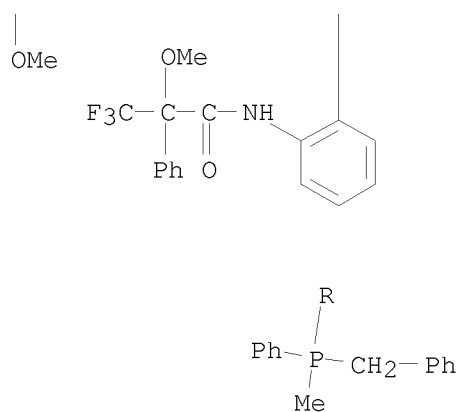
RN 137681-43-7 CAPLUS

CN Ruthenium, bis[methylphenyl(phenylmethyl)phosphine][[N,N',N'',N'''-(21H,23H-porphine-5,10,15,20-tetrayltetra-2,1-phenylene)tetrakis[α-methoxy-α-(trifluoromethyl)benzeneacetamidato]](2-)-N21,N22,N23,N24]-, stereoisomer (9CI) (CA INDEX NAME)

PAGE 1-A

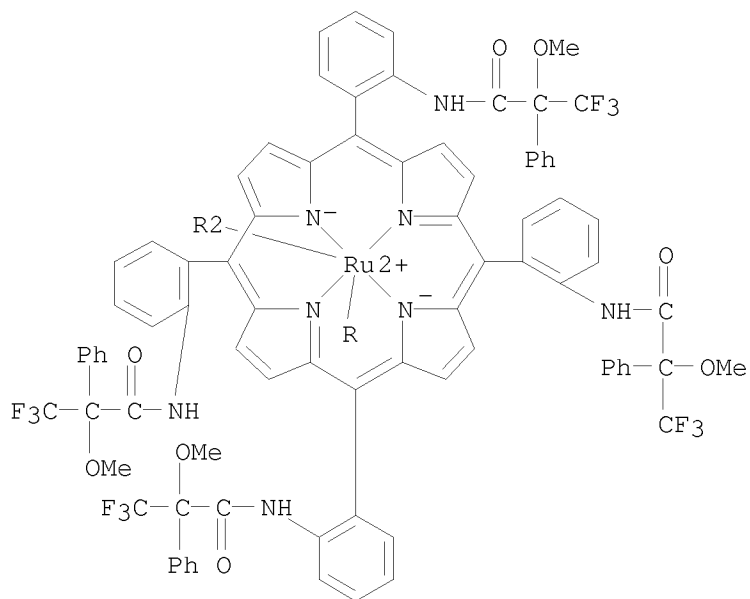


PAGE 2-A

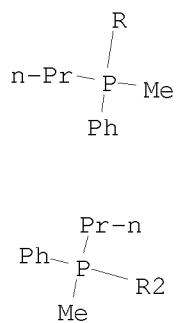


RN 137766-46-2 CAPLUS
 CN Ruthenium, bis(methylphenylpropylphosphine) [[N,N',N'',N'''-(21H,23H-porphine-5,10,15,20-tetrayltetra-2,1-phenylene)tetrakis[α -methoxy- α -(trifluoromethyl)benzeneacetamido]] (2-)-N21,N22,N23,N24]-, stereoisomer (9CI) (CA INDEX NAME)

PAGE 1-A



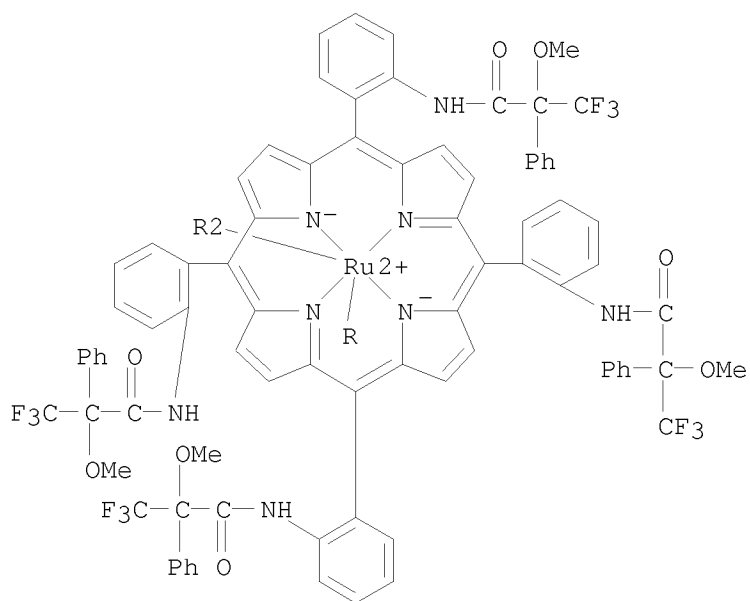
PAGE 2-A



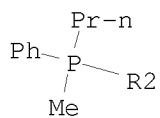
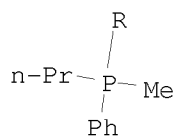
RN 137767-25-0 CAPLUS

CN Ruthenium, bis(methylphenylpropylphosphine) [[N,N',N'',N'''-(21H,23H-porphine-5,10,15,20-tetra-2,1-phenylene)tetrakis[α-methoxy-α-(trifluoromethyl)benzeneacetamido]](2-)-N21,N22,N23,N24]-, stereoisomer (9CI) (CA INDEX NAME)

PAGE 1-A



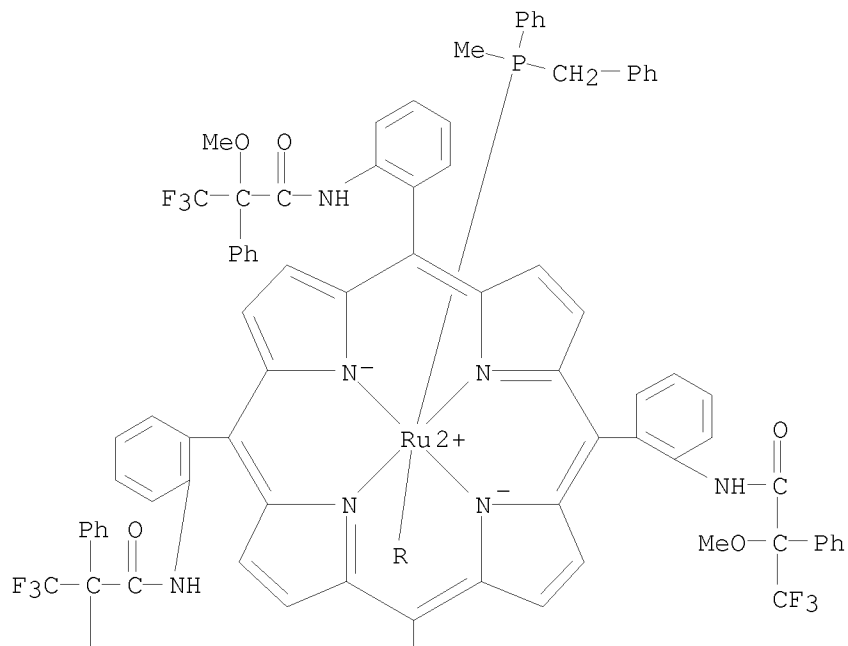
PAGE 2-A



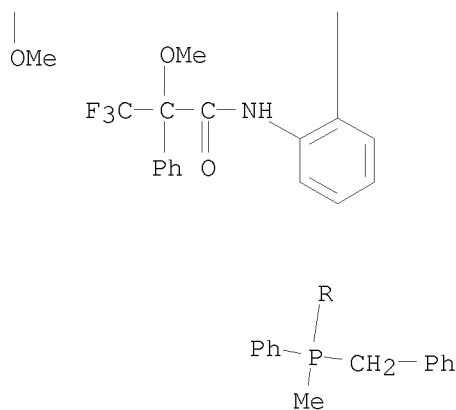
RN 137767-27-2 CAPLUS

CN Ruthenium, bis[methylphenyl(phenylmethyl)phosphine][[N,N',N'',N'''-(21H,23H-porphine-5,10,15,20-tetrayltetra-2,1-phenylene)tetrakis[α-methoxy-α-(trifluoromethyl)benzeneacetamidato]](2-)-N21,N22,N23,N24]-, stereoisomer (9CI) (CA INDEX NAME)

PAGE 1-A

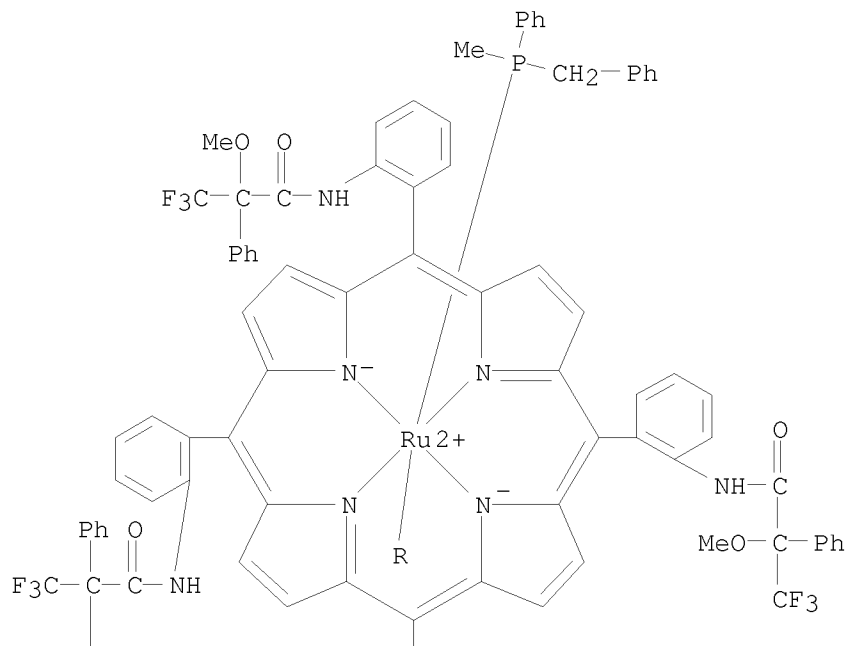


PAGE 2-A

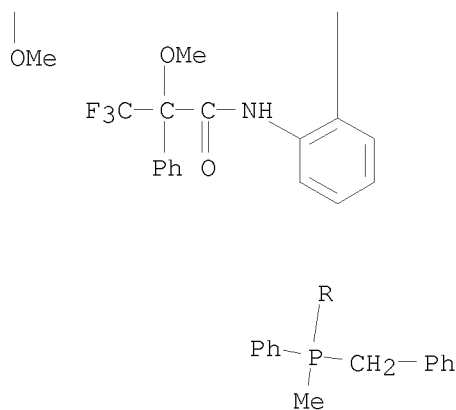


RN 137767-28-3 CAPLUS
 CN Ruthenium, bis[methylphenyl(phenylmethyl)phosphine][[N,N',N'',N'''-(21H,23H-porphine-5,10,15,20-tetra-2,1-phenylene)tetrakis[α-methoxy-α-(trifluoromethyl)benzeneacetamido]](2-)-N21,N22,N23,N24]-, stereoisomer (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A

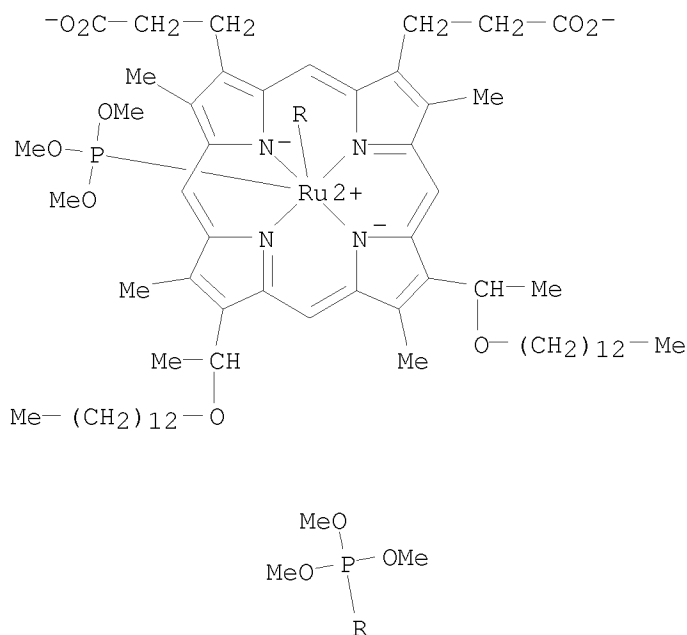


L6 ANSWER 46 OF 72 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1991:690804 CAPLUS
 DOCUMENT NUMBER: 115:290804
 ORIGINAL REFERENCE NO.: 115:49159a, 49162a
 TITLE: An optical element utilizing a molecular heterojunction
 INVENTOR(S): Isoda, Satoru; Ueyama, Satoshi; Kawakubo, Hiroaki; Maeda, Mitsuo
 PATENT ASSIGNEE(S): Mitsubishi Electric Corp., Japan

SOURCE: Eur. Pat. Appl., 19 pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 390523	A2	19901003	EP 1990-303287	19900328
EP 390523	A3	19910123		
EP 390523	B1	19951227		
R: DE, FR, GB				
JP 02257675	A	19901018	JP 1989-79238	19890329
JP 2752687	B2	19980518		
US 5211762	A	19930518	US 1990-500496	19900328
PRIORITY APPLN. INFO.:			JP 1989-79238	A 19890329
OTHER SOURCE(S): MARPAT 115:290804				
AB	An optical element utilizing a Langmuir-Blodgett-film mol. heterojunction includes a 1st redox material film comprising a 1st redox material, a 2nd redox material film comprising a 2nd redox material having a different redox potential from that of the 1st redox material and connected to the 1st redox material film, a 1st electrode connected to the 1st redox material film, and a 2nd electrode connected to the 2nd redox material film. The optical element exhibits a photoconduction property when it is irradiated with light in that the states of electrons in the 1st and 2nd redox materials are controlled by the light irradiation utilizing the difference in the redox potential of the redox material. The redox materials are woven from porphyrins and flavins.			
IT	137164-58-0 RL: PRP (Properties) (Langmuir-Blodgett films containing, for mol. heterojunctions for optical elements)			
RN	137164-58-0 CAPLUS			
CN	Ruthenate(2-), [3,7,12,17-tetramethyl-8,13-bis[1-(tridecyloxy)ethyl]-21H,23H-porphine-2,18-dipropanoato(4-)-N21,N22,N23,N24]bis(trimethyl phosphite-P)-, dihydrogen, (OC-6-13)- (9CI) (CA INDEX NAME)			

PAGE 1-A



PAGE 2-A

● 2 H⁺

L6 ANSWER 47 OF 72 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1991:646201 CAPLUS

DOCUMENT NUMBER: 115:246201

ORIGINAL REFERENCE NO.: 115:41661a, 41664a

TITLE: Switching device

INVENTOR(S): Isoda, Satoru; Kamiyama, Tomotsugu; Kawakubo, Hiroaki; Maeda, Mitsuo

PATENT ASSIGNEE(S): Mitsubishi Electric Corp., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 10 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 3

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 02257682	A	19901018	JP 1989-79236	19890329
US 5010451	A	19910423	US 1990-500347	19900328
EP 390132	A2	19901003	EP 1990-105998	19900329
EP 390132	A3	19910123		

EP 390132 B1 19960612

R: DE, FR, GB

PRIORITY APPLN. INFO.:

JP 1989-79236

A 19890329

JP 1989-79237

A 19890329

JP 1989-81827

A 19890331

OTHER SOURCE(S): MARPAT 115:246201

AB A switching device, suitable for a high-d. and high-speed integrated circuit, comprises a 1st redox-substance film from a flavin derivative and a 2nd redox-substance film from a porphyrin derivative to show a switching or transistor property.

IT 137164-58-0

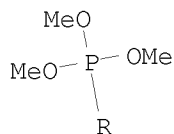
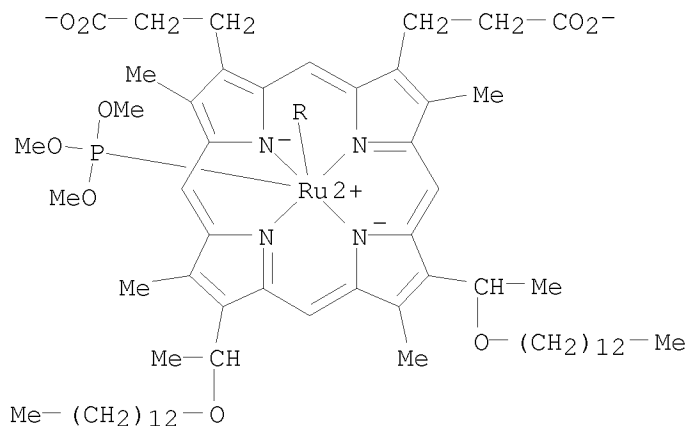
RL: USES (Uses)

(elec. switches from, redox)

RN 137164-58-0 CAPLUS

CN Ruthenate(2-), [3,7,12,17-tetramethyl-8,13-bis[1-(tridecyloxy)ethyl]-21H,23H-porphine-2,18-dipropionato(4-)-N21,N22,N23,N24]bis(trimethyl phosphite-P)-, dihydrogen, (OC-6-13)- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A

● 2 H⁺

L6 ANSWER 48 OF 72 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1991:483701 CAPLUS

DOCUMENT NUMBER: 115:83701

ORIGINAL REFERENCE NO.: 115:14203a
 TITLE: Rectifying devices
 INVENTOR(S): Isoda, Satoru; Kamiyama, Tomotsugu; Kawakubo, Hiroaki;
 Maeda, Mitsuo
 PATENT ASSIGNEE(S): Mitsubishi Electric Corp., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 3
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 02257674	A	19901018	JP 1989-79237	19890329
JP 2732887	B2	19980330		
US 5010451	A	19910423	US 1990-500347	19900328
EP 390132	A2	19901003	EP 1990-105998	19900329
EP 390132	A3	19910123		
EP 390132	B1	19960612		
R: DE, FR, GB				
PRIORITY APPLN. INFO.:			JP 1989-79236	A 19890329
			JP 1989-79237	A 19890329
			JP 1989-81827	A 19890331
OTHER SOURCE(S):		MARPAT 115:83701		
GI				

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

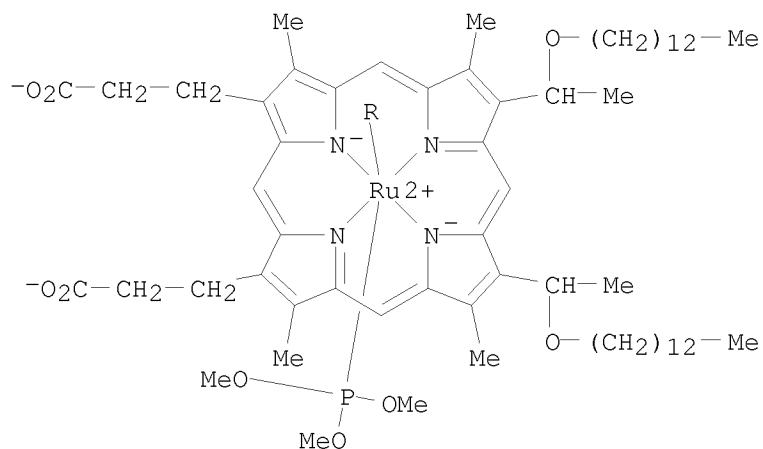
AB A rectifying device comprises a rectifying part operated by redox elec. potential and a pair of electrodes binding the rectifying part between them, wherein the rectifying part comprises a 1st oxidation-reduction flavin derivative and a 2nd oxidation-reduction porphyrin derivative The porphyrin derivative may be I, II, or III [M = Fe, Ru; X,Y,Z = halo, CO, OCOMe, pyridinyl, imidazolyl, P(OR1)3, PR13; R1 = C1-4 alkyl; m,n = 5-20] or their alkali metal salts. The flavin derivative may be IV (R1, R2 = H, C1-5 alkyl, C6-20 alkyl, C15-20 alkyl; but R1 = R2 ≠ H, C1-5 alkyl, C15-20 alkyl). The device is a mol.-sized microrectifier and makes integrated circuits highly compact.

IT 135436-14-5
 RL: USES (Uses)
 (microrectifier)

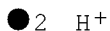
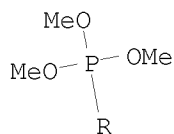
RN 135436-14-5 CAPLUS

CN Ruthenate(2-), [3,7,13,17-tetramethyl-8,12-bis[1-(tridecyloxy)ethyl]-21H,23H-porphine-2,18-dipropanoato(4-)-N21,N22,N23,N24]bis(trimethyl phosphite-P)-, dihydrogen, (OC-6-12)-(9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



L6 ANSWER 49 OF 72 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1991:420890 CAPLUS

DOCUMENT NUMBER: 115:20890

ORIGINAL REFERENCE NO.: 115:3533a, 3536a

TITLE: Synthesis and reactions with electrophiles and nucleophiles of the ruthenium(I) complex [Ru₂(μ-C₁₀H₈N₂)(CO)₆]. Crystal structure of [Ru₂(μ-C₁₀H₈N₂)(CO)₄{P(OPh)₃}₂] (C₁₀H₁₀N₂ = 1,8-diaminonaphthalene)

AUTHOR(S): Cabeza, Javier A.; Fernandez-Colinas, Jose M.; Riera, Victor; Pellinghelli, Maria Angela; Tiripicchio, Antonio

CORPORATE SOURCE: Dep. Quim. Organometalica, Univ. Oviedo, Oviedo, E-33071, Spain

SOURCE: Journal of the Chemical Society, Dalton Transactions: Inorganic Chemistry (1972-1999) (1991), (3), 371-7
CODEN: JCDBTBI; ISSN: 0300-9246

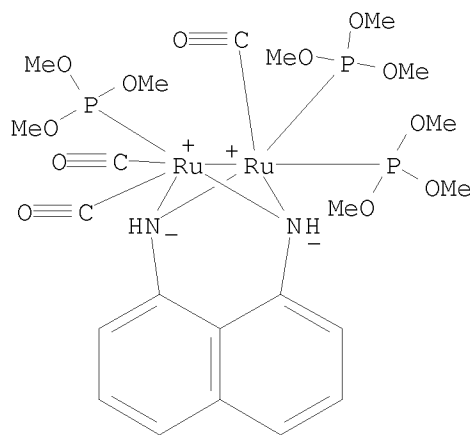
DOCUMENT TYPE: Journal

LANGUAGE: English

AB [Ru₂(μ-Q)(CO)₆] (I; H₂Q = 1,8-diaminonaphthalene) was prepared by reaction of [Ru₃(CO)₁₂] with an excess of H₂Q under CO at 110°. I

reacts with halogens, HBF_4 , and di-Me acetylenedicarboxylate (Q1) to give triply-bridged $[\text{Ru}_2(\mu\text{-Q})(\mu\text{-X})(\text{CO})_6]^+$ ($\text{X} = \text{I}, \text{Br}, \text{Cl}$), $[\text{Ru}_2(\mu\text{-Q})(\mu\text{-H})(\text{CO})_6]\text{BF}_4$, and $[\text{Ru}_2(\mu\text{-Q})(\mu\text{-Q1})(\text{CO})_6]$, resp. $[\text{Ru}_2(\mu\text{-}) (\text{CO})_4\text{L}_2]$ (II; $\text{L} = \text{PPr-iso}_3, \text{PPh}_3, \text{P(OPh)}_3, \text{dppm} ((\text{Ph}_2\text{P})_2\text{CH}_2)$, which contain the introduced ligands trans to the Ru-Ru bond, were prepared by reaction of I with an excess of L. The reaction of I with an excess of P(OMe)_3 renders $[\text{Ru}_2(\mu\text{-Q})(\text{CO})_3\{\text{P(OMe)}_3\}_3]$. The reaction of I with 1 equiv of dppm at room temperature, gave a mixture of oligomers containing bridging and monocoordinated dppm ligands. These oligomers aggregate in refluxing THF to give polymeric $[\{\text{Ru}_2(\mu\text{-L})(\text{CO})_4(\mu\text{-dppm})\}]$. $\{\text{Ru}_2(\mu\text{-L})(\text{CO})_5(\text{py})\}$ as prepared by reaction of I with pyridine. IR and ^1H and $^{31}\text{P}\{^1\text{H}\}$ NMR spectra of all the compds. are presented and discussed in relation to their structures. The crystal structure of II ($\text{L} = \text{P(OPh)}_3$) was determined by x-ray diffraction: monoclinic, space group $\text{P}2_1/\text{m}$, a 9.520(4), b 28.073(8), c 10.070(5) Å, β 117.15(2)°, $Z = 2$, $R = 0.0658$. The 2 Ru atoms are doubly bridged by the N atoms of with a short Ru-Ru separation, 2.571(1) Å, consistent with a metal-metal bond.

IT 134066-58-3P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of)
 RN 134066-58-3 CAPLUS
 CN Ruthenium, tricarbonyl [μ -[1,8-naphthalenediaminato(2-)-
 N,N':N,N']] tris(trimethyl phosphite-P) di-, (Ru-Ru), stereoisomer (9CI)
 (CA INDEX NAME)



L6 ANSWER 50 OF 72 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1989:586269 CAPLUS
 DOCUMENT NUMBER: 111:186269
 ORIGINAL REFERENCE NO.: 111:30769a,30772a
 TITLE: Preparation and characterization of ruthenium(II) porphyrins
 AUTHOR(S): Massoudipour, Morteza; Pandey, Krishna K.
 CORPORATE SOURCE: Dep. Chem., Devi Ahilya Univ., Indore, 452 001, India
 SOURCE: Inorganica Chimica Acta (1989), 160(1), 115-18
 CODEN: ICHAA3; ISSN: 0020-1693
 DOCUMENT TYPE: Journal
 LANGUAGE: English

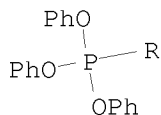
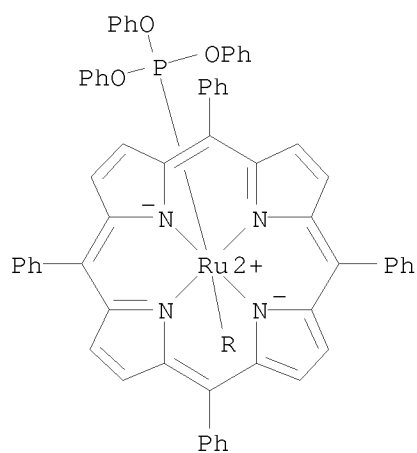
AB Ru(TPP)(CO)(EtOH) (I; H₂TPP = meso-tetraphylporphyrin) was prepared by the reaction of RuCl₃·3H₂O with HCHO in the presence of H₂TPP. I reacts with NOCl, NOBr to give Ru(TPP)(NO)X (X = Cl, Br) and with AsPh₃, P(OPh)₃ and P(OEt)₃ to afford Ru(TPP)L₂ (L = AsPh₃, P(OPh)₃, P(OEt)₃, resp. I reacts with CS₂ to give Ru(TPP)(CO)(CS). All complexes have been characterized by elemental anal., IR, and visible spectroscopies.

IT 123359-61-5P 123359-62-6P

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

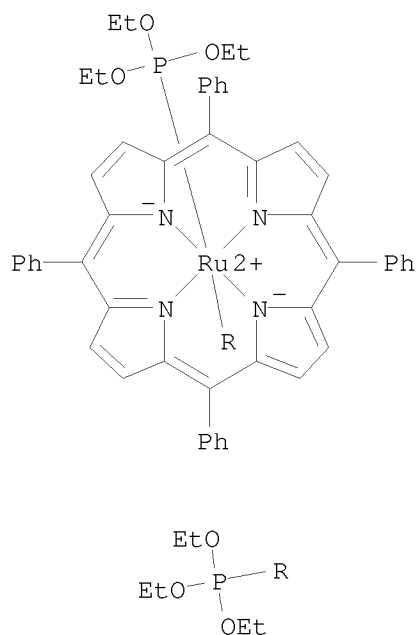
RN 123359-61-5 CAPLUS

CN Ruthenium, [5,10,15,20-tetraphenyl-21H,23H-porphinato(2-)-N₂₁,N₂₂,N₂₃,N₂₄]bis(triphenyl phosphite-P)-, (OC-6-12)- (9CI) (CA INDEX NAME)



RN 123359-62-6 CAPLUS

CN Ruthenium, [5,10,15,20-tetraphenyl-21H,23H-porphinato(2-)-N₂₁,N₂₂,N₂₃,N₂₄]bis(triethyl phosphite-P)-, (OC-6-12)- (9CI) (CA INDEX NAME)



L6 ANSWER 51 OF 72 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1988:142137 CAPLUS

DOCUMENT NUMBER: 108:142137

ORIGINAL REFERENCE NO.: 108:23151a, 23154a

TITLE: Nitrosobenzene complexes of
(octaethylporphyrinato)ruthenium(II)

AUTHOR(S): Crotti, Corrado; Sishta, Chand; Pacheco, Andrew;
James, Brian R.

CORPORATE SOURCE: Dep. Chem., Univ. British Columbia, Vancouver, BC, V6T
1Y6, Can.

SOURCE: Inorganica Chimica Acta (1988), 141(1), 13-15
CODEN: ICHAA3; ISSN: 0020-1693

DOCUMENT TYPE: Journal

LANGUAGE: English

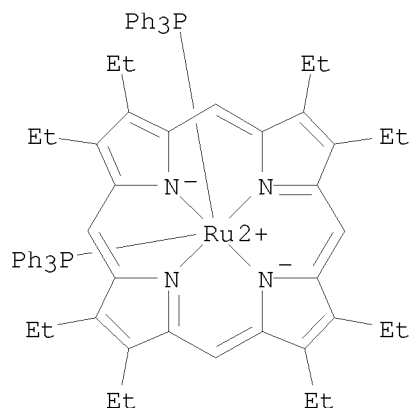
AB Treatment of $\text{Ru}(\text{OEP})(\text{CO})(\text{EtOH})$ (H_2OEP = octaethylporphyrin) with PhNO under N gave $\text{Ru}(\text{OEP})(\text{PhNO})_2$ (I) which is in equilibrium with $\text{Ru}(\text{OEP})(\text{PhNO})$ in solution. Treatment of I with pyridine gave $\text{Ru}(\text{OEP})(\text{PhNO})\text{py}$ (II) which was also formed from $\text{Ru}(\text{OEP})(\text{py})_2$ and PhNO . $\text{Ru}(\text{OEP})(\text{PhNO})(\text{PPh}_3)$ (III) was formed in situ from I and PPh_3 or from $\text{Ru}(\text{OEP})(\text{PPh}_3)_2$ (IV) or $\text{Ru}(\text{OEP})(\text{PPh}_3)$ and PhNO ; III decomposed upon workup to several species, including IV. Treatment of I in CH_2Cl_2 with CO gave $\text{Ru}(\text{OEP})(\text{CO})_2$, and $\text{Ru}(\text{OEP})(\text{PhNO})(\text{CO})$ and $\text{Ru}(\text{OEP})(\text{CO})$ were detected in situ at $< -40^\circ$. The substitution reactions of I show the strong π -acid character for PhNO in Ru porphyrins when trans to another π -acid. I reacted with $[\text{Ru}(\text{OEP})]_2$ to give $\text{Ru}(\text{OEP})(\text{PhNO})$ in solution. The complexes were characterized by NMR spectra; I and II were characterized by IR and mass spectra. PhNO is N-bonded.

IT 80684-90-8P, (Octaethylporphyrinato)bis(triphenylphosphine)ruthenium

RL: PREP (Preparation)

(formation from decomposition of nitrosobenzene complex and reaction of,

with nitrosobenzene)
 RN 80684-90-8 CAPLUS
 CN Ruthenium, [2,3,7,8,12,13,17,18-octaethyl-21H,23H-porphinato(2-)-N21,N22,N23,N24]bis(triphenylphosphine)-, (OC-6-12)- (9CI) (CA INDEX NAME)



L6 ANSWER 52 OF 72 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1987:148351 CAPLUS

DOCUMENT NUMBER: 106:148351

ORIGINAL REFERENCE NO.: 106:24035a,24038a

TITLE: Synthesis and reactivity of five-coordinate (porphinato)(tertiary phosphine)ruthenium(II) complexes

AUTHOR(S): Sishta, Chand; Camenzind, Mark J.; James, Brian R.; Dolphin, David

CORPORATE SOURCE: Dep. Chem., Univ. British Columbia, Vancouver, BC, V6T 1Y6, Can.

SOURCE: Inorganic Chemistry (1987), 26(7), 1181-2

CODEN: INOCAJ; ISSN: 0020-1669

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Vacuum pyrolysis of RuL(PR3)2 affords RuLPR3 (H2L = 2,3,7,8,12,13,17,18-octaethylporphyrin and its 5,10,15,20-tetramesityl derivative, and R = Ph, Bu, resp.). Reaction of RuLPR3 with CO or PR13 yields RuL(CO)PR3 or RuL(PR3)(PR13), resp., and treatment with HBr gives RuBrL(PR3); RuL(PR3) are unreactive toward O, N, H, and aldehydes, which has implications for some reported catalytic reactions.

IT 107455-20-9P

RL: SPN (Synthetic preparation); PREP (Preparation) (preparation and vacuum pyrolysis of)

RN 107455-20-9 CAPLUS

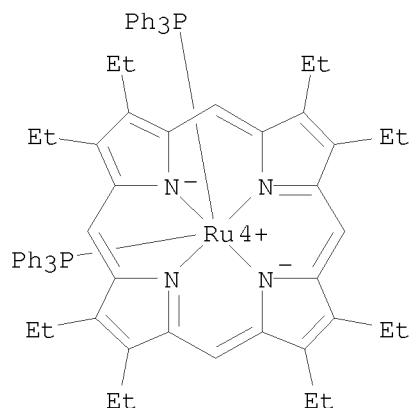
CN Ruthenium, [5,10,15,20-tetrakis(2,4,6-trimethylphenyl)-21H,23H-porphinato(2-)-N21,N22,N23,N24]bis(tributylphosphine)-, (OC-6-12)- (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

IT 80675-26-9

RL: RCT (Reactant); RACT (Reactant or reagent) (vacuum pyrolysis of)

RN 80675-26-9 CAPLUS
 CN Ruthenium(2+), [2,3,7,8,12,13,17,18-octaethyl-21H,23H-porphinato(2-)-N21,N22,N23,N24]bis(triphenylphosphine)-, (OC-6-12)- (9CI) (CA INDEX NAME)



L6 ANSWER 53 OF 72 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1985:522779 CAPLUS
 DOCUMENT NUMBER: 103:122779
 ORIGINAL REFERENCE NO.: 103:19633a
 TITLE: Aerobic epoxidation of olefins with ruthenium porphyrin catalysts
 AUTHOR(S): Groves, John T.; Quinn, Robert
 CORPORATE SOURCE: Dep. Chem., Univ. Michigan, Ann Arbor, MI, 48109, USA
 SOURCE: Journal of the American Chemical Society (1985), 107(20), 5790-2
 CODEN: JACSAT; ISSN: 0002-7863
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 103:122779

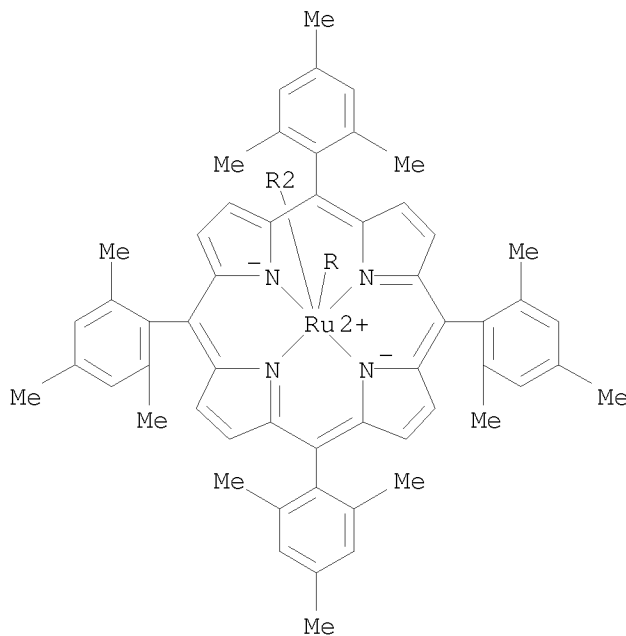
AB Dioxo(tetramesitylporphyrinato)ruthenium(VI) (I) catalyzes the aerobic epoxidn. of olefins at ambient temperature and pressure. For a variety of olefins, 16-45 equiv of epoxide, based on the amount of catalyst, were produced over 24 h. The yield of cyclooctene oxide was independent of O₂ pressure at 15-60 psi and olefin concns. of 0.5-1.5 M. Epoxidn. of cis- and trans- β -methylstyrene proceeded with nearly complete retention of configuration. Yields of epoxides from competitive oxidns. of olefins with added norbornene suggest that a step other than O transfer is rate limiting. Under anaerobic conditions, I was a competent stoichiometric oxidant and reaction with cyclooctene gave 0.8 equiv of epoxide. Addition of O₂ to Ru(TMP)(THF)₂ (TMP = tetramesitylporphyrinato) in benzene gave 50% I. Taken together these results are consistent with I as the active oxidant in aerobic epoxidn. and a transient ruthenium(II) complex as the species reactive toward O₂.

IT 92694-64-9
 RL: PRP (Properties)
 (attempted epoxidn. by, of alkenes in presence of dioxygen)

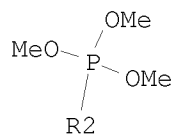
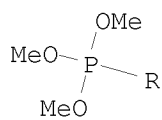
RN 92694-64-9 CAPLUS
 CN Ruthenium, [5,10,15,20-tetrakis(2,4,6-trimethylphenyl)-21H,23H-porphinato(2-)-N21,N22,N23,N24]bis(trimethyl phosphite-P)-, (OC-6-12)-

(9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



L6 ANSWER 54 OF 72 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1985:140115 CAPLUS
 DOCUMENT NUMBER: 102:140115
 ORIGINAL REFERENCE NO.: 102:21877a,21880a
 TITLE: Picosecond studies of ruthenium(II) and ruthenium(III) porphyrin photophysics
 AUTHOR(S): Tait, C. Drew; Holten, Dewey; Barley, Mark; Dolphin, David; James, Brian R.
 CORPORATE SOURCE: Dep. Chem., Washington Univ., St. Louis, MO, 63130,

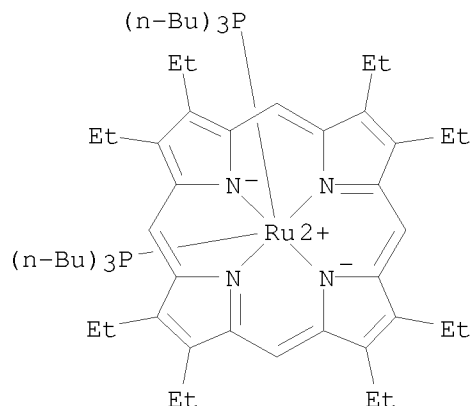
USA
 SOURCE: Journal of the American Chemical Society (1985),
 107(7), 1930-4
 CODEN: JACSAT; ISSN: 0002-7863
 DOCUMENT TYPE: Journal
 LANGUAGE: English

AB The results are reported of picosecond and slower time scale transient absorption and emission measurements on a series of Ru(II) and Ru(III) octaethylporphyrins (Ru(OEP)(L1)(L2)). The Ru(II) porphyrins are of 3 types. First are the carbonyl complexes in which L1 = CO and L2 = EtOH, pyridine (py), or 1-methylimidazole (1-MeIm), which all exhibit similar spectral and kinetic behavior. The lowest excited states of these mols. are assigned as the ring $3T(\pi, \pi^*)$ in agreement with previous work on similar complexes. The $3T(\pi, \pi^*)$ state has a lifetime of .apprx.75 μ s at room temperature in degassed solution, as measured by decay of phosphorescence emission at 657 nm or relaxation of absorption changes induced by a 10-ns laser flash. Absorption difference spectra obtained upon excitation with a 35-ps flash do not decay over a 6-ns time scale, in agreement with the slower measurements. The spectra exhibit bleaching in the ground-state bands and the appearance of 2 new transient absorption peaks ($\log \epsilon$.apprx.3.7) near 720 and 815 nm; these features are consistent with the assignment of the transient as a metalloporphyrin (π, π^*) triplet. The $1Q(\pi, \pi^*)$ lifetimes in these carbonyl complexes appear to be <35 ps. Different photophys. behavior is observed for RuII(OEP)(P-n-Bu3)2. The lowest excited state of this complex is assigned as a $(d\pi, eg(\pi^*))$ metal-to-ring charge transfer (CT) state. The lifetime of this transient is 12 ± 3 ns, as measured by decay of the absorption changes in toluene following picosecond excitation. The absorption difference spectrum contains a distinct new absorption peak near 710 nm, which is expected for a (d, π^*) CT excited state on the basis of resemblances with ground-state spectra of metalloporphyrin π -anion radicals. The absorption changes observed upon excitation of RuII(OEP)(NO)(OMe) in toluene with a 35-ps flash decay in 2 steps, with lifetimes of ≤ 50 ps and > 5 ns. These components are tentatively assigned to relaxation of the ring $1Q(\pi, \pi^*)$ and $3T(\pi, \pi^*)$ excited states. The triplet decay may proceed via ring $(\pi) \rightarrow$ [metal $d\pi + NO(\pi^*)$] CT states predicted to be in the proper energy range from previous theor. work. Finally, excited RuIII(OEP)(P-n-Bu3)(Br) decays completely in ≤ 35 ps, possibly via a $(\pi, d\pi)$ ring-to-metal CT excited state. The results are discussed in terms of recent absorption and emission measurements and calcns. on d6 metalloporphyrins and are compared to previous picosecond measurements on analogous Os(II) porphyrins.

IT 79008-52-9
 RL: PRP (Properties)
 (picosecond absorption and emission studies of)

RN 79008-52-9 CAPLUS

CN Ruthenium, [2,3,7,8,12,13,17,18-octaethyl-21H,23H-porphinato(2-)-N21,N22,N23,N24]bis(tributylphosphine)-, (OC-6-12)-(9CI) (CA INDEX NAME)



L6 ANSWER 55 OF 72 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1985:71620 CAPLUS

DOCUMENT NUMBER: 102:71620

ORIGINAL REFERENCE NO.: 102:11109a,11112a

TITLE: Reversible intramolecular electron transfer within a ruthenium(III) porphyrin-ruthenium(II) porphyrin π -cation radical system induced by changes in axial ligation

AUTHOR(S): Barley, Mark H.; Dolphin, David; James, Brian R.

CORPORATE SOURCE: Dep. Chem., Univ. British Columbia, Vancouver, V6T 1Y6, Can.

SOURCE: Journal of the Chemical Society, Chemical Communications (1984), (22), 1499-500
CODEN: JCCCAT; ISSN: 0022-4936

DOCUMENT TYPE: Journal

LANGUAGE: English

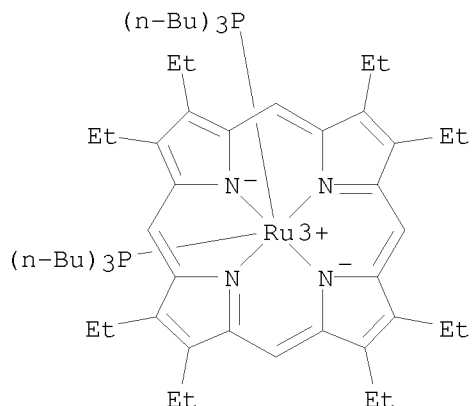
AB Treatment of $[\text{RuL}(\text{AsPh}_3)_2]^+$ (I) (H_2L = octaethylporphyrin), generated in situ in CH_2Cl_2 , with CO at 1 atm gave $[\text{Ru}(\text{II})(\text{L}\bullet^+)(\text{CO})(\text{AsPh}_3)]^+$ (II) through intramol. electron transfer. By purging the solution of II with Ar I was regenerated; this reversibility was repeated with .apprx.95% yield in either direction.

IT 80684-83-9P

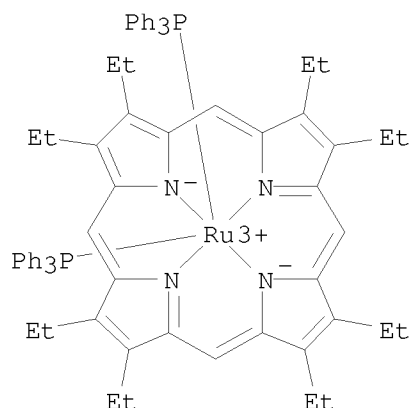
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

RN 80684-83-9 CAPLUS

CN Ruthenium(1+), [2,3,7,8,12,13,17,18-octaethyl-21H,23H-porphinato(2-)-N21,N22,N23,N24]bis(tributylphosphine)-, (OC-6-12)-(9CI) (CA INDEX NAME)



IT 80684-86-2
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with carbon monoxide)
 RN 80684-86-2 CAPLUS
 CN Ruthenium(1+), [2,3,7,8,12,13,17,18-octaethyl-21H,23H-porphinato(2-)-N21,N22,N23,N24]bis(triphenylphosphine)-, (OC-6-12)- (9CI) (CA INDEX NAME)



L6 ANSWER 56 OF 72 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1984:639312 CAPLUS
 DOCUMENT NUMBER: 101:239312
 ORIGINAL REFERENCE NO.: 101:36231a,36234a
 TITLE: Models of oxidized heme proteins. Preparation and characterization of a trans-dioxoruthenium(VI) porphyrin complex
 AUTHOR(S): Groves, John T.; Quinn, Robert
 CORPORATE SOURCE: Dep. Chem., Univ. Michigan, Ann Arbor, MI, 48109, USA
 SOURCE: Inorganic Chemistry (1984), 23(24), 3844-6
 CODEN: INOCAJ; ISSN: 0020-1669
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB Reaction of Ru(TMP)CO (H2TMP = 5,10,15,20-tetramesitylporphyrin with 2

equiv of $m\text{-ClC}_6\text{H}_4\text{CO}_2\text{OH}$ or with solid iodosylbenzene gave $\text{trans-Ru(TMP)(O)}_2$ (I). The $^1\text{H-NMR}$ spectrum of I indicates that it is diamagnetic and possesses D_{4h} symmetry. The IR spectrum of I exhibits a strong band at 821 cm^{-1} which shifts appropriately to 785 cm^{-1} for ^{18}O -labeled I and can be assigned to an asym. RuO_2 stretch. The reaction of I with $(\text{MeO})_3\text{P}$ generated 2 mol of Me_3PO_4 and 1 mol of $\text{Ru(TMP)[P(OMe)}_3\text{]}_2$ per mol of I. The reaction of RuLCO ($\text{H}_2\text{L} = 5,10,15,20\text{-tetra-}p\text{-tolylporphyrin}$) with 2 equivalent of $m\text{-ClC}_6\text{H}_4\text{CO}_2\text{OH}$ gave $\text{Ru(IV) } \mu\text{-oxo}$ dimers suggesting that the stability of I with respect to these dimers is dependent upon the steric hindrance of the $o\text{-Me}$ groups of the mesityl substituents. The cyclic voltammogram of I shows 1 reversible oxidation at 1.12 V vs. SCE. Electrolysis of I at 1.3 V results in a visible spectrum suggestive of oxidation of the porphyrin rather than the metal center.

IT 92694-64-9P

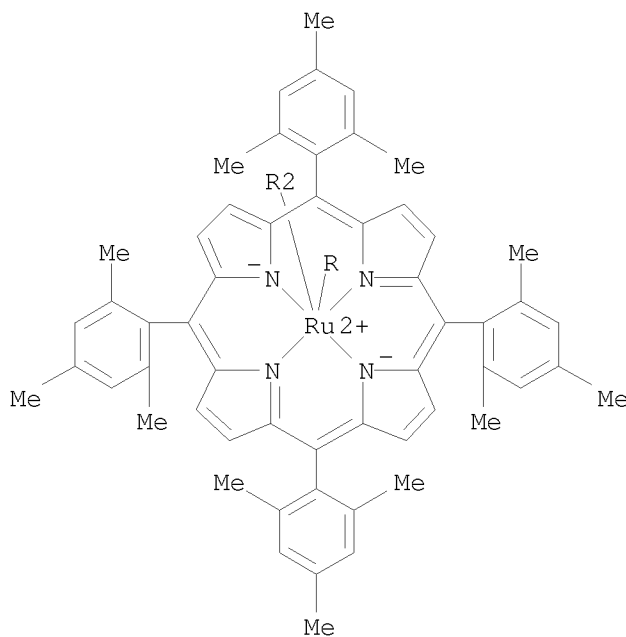
RL: SPN (Synthetic preparation); PREP (Preparation)

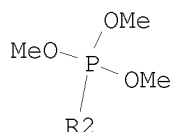
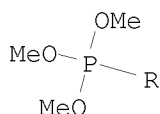
(preparation of, from dioxo(tetramesitylporphyrinato)ruthenium and tri-Me phosphite)

RN 92694-64-9 CAPLUS

CN Ruthenium, [5,10,15,20-tetrakis(2,4,6-trimethylphenyl)-21H,23H-porphinato(2-)-N21,N22,N23,N24]bis(trimethyl phosphite-P)-, (OC-6-12)-(9CI) (CA INDEX NAME)

PAGE 1-A





L6 ANSWER 57 OF 72 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1984:542783 CAPLUS

DOCUMENT NUMBER: 101:142783

ORIGINAL REFERENCE NO.: 101:21493a,21496a

TITLE: Preparation and characterization of some ruthenium(III) porphyrins, including the crystal structure of bromo(octaethylporphinato)(triphenylphosphine)ruthenium(III)

AUTHOR(S): James, Brian R.; Dolphin, David; Leung, T. W.; Einstein, Frederick W. B.; Willis, Anthony C.

CORPORATE SOURCE: Dep. Chem., Univ. British Columbia, Vancouver, BC, V6T 1Y6, Can.

SOURCE: Canadian Journal of Chemistry (1984), 62(7), 1238-45
CODEN: CJCHAG; ISSN: 0008-4042

DOCUMENT TYPE: Journal

LANGUAGE: English

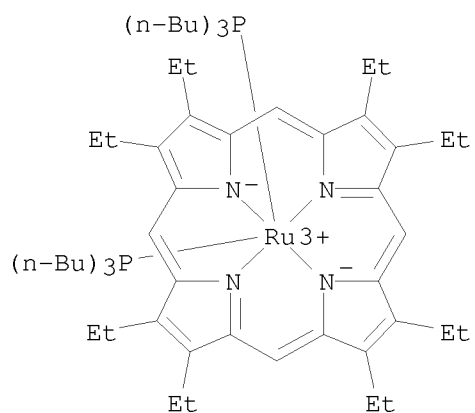
AB RuQLX and [RuQL2]X (H2Q = octaethylporphyrin (H2OEP) or tetraphenylporphyrin; L = PPh3, PBu3; X = Br, Cl) were prepared by oxidation of RuQL2 or RuQ(CO)L with the halogens or air in the presence of the hydrogen halides. The X = PF6 salts can be made with Et3O+PF6- as oxidant. Ru(II) porphyrin π -cation radical intermediates were sometimes detected. The x-ray crystal structure of Ru(OEP)(PPh3)Br reveals that Ru is displaced 0.049 Å from the plane of the pyrrole N atoms towards the phosphine. Ru(OEP)(py)Br and [Ru(OEP)(py)CH3CN]PF6 were prepared from Ru(OEP)(CO)py. The Ru(III) complexes are low-spin as shown by magnetic and ESR data. Optical and 1H NMR data, the latter showing large paramagnetic shifts, are also presented.

IT 80684-85-1P 91536-22-0P

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

RN 80684-85-1 CAPLUS

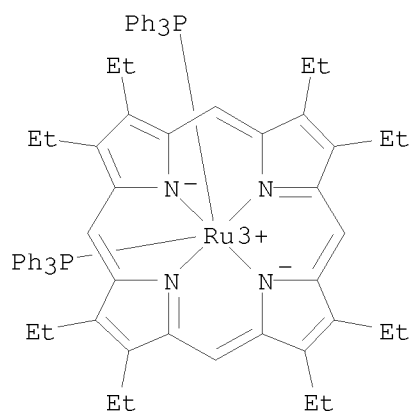
CN Ruthenium(1+), [2,3,7,8,12,13,17,18-octaethyl-21H,23H-porphinato(2-)-N21,N22,N23,N24]bis(tributylphosphine)-, bromide, (OC-6-12)- (9CI) (CA INDEX NAME)



RN 91536-22-0 CAPLUS
 CN Ruthenium(1+), [2,3,7,8,12,13,17,18-octaethyl-21H,23H-porphinato(2-)-N21,N22,N23,N24]bis(triphenylphosphine)-, (OC-6-12)-, hexafluorophosphate(1-) (9CI) (CA INDEX NAME)

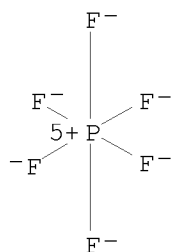
CM 1

CRN 80684-86-2
 CMF C72 H74 N4 P2 Ru
 CCI CCS



CM 2

CRN 16919-18-9
 CMF F6 P
 CCI CCS

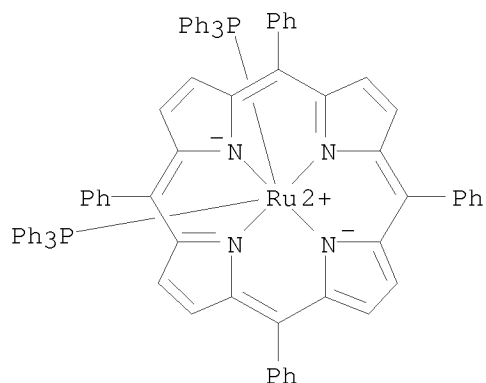


IT 34690-40-9 80684-90-8

RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with halogens and hydrogen halides)

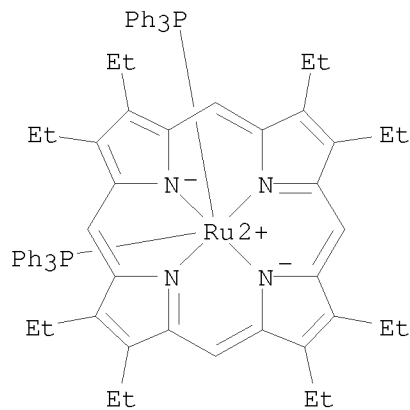
RN 34690-40-9 CAPLUS

CN Ruthenium, [5,10,15,20-tetraphenyl-21H,23H-porphinato(2-)-
κN21,κN22,κN23,κN24]bis(triphenylphosphine)-,
(OC-6-12)- (9CI) (CA INDEX NAME)



RN 80684-90-8 CAPLUS

CN Ruthenium, [2,3,7,8,12,13,17,18-octaethyl-21H,23H-porphinato(2-)-
N21,N22,N23,N24]bis(triphenylphosphine)-, (OC-6-12)- (9CI) (CA INDEX
NAME)



L6 ANSWER 58 OF 72 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1984:502858 CAPLUS

DOCUMENT NUMBER: 101:102858

ORIGINAL REFERENCE NO.: 101:15559a,15562a

TITLE: Oxidation of ruthenium(II) and ruthenium(III) porphyrins. Crystal structures of μ -oxo-bis[(p-methylphenoxo)(meso-tetraphenylporphyrinato)ruthenium(IV)] and ethoxo(meso-tetraphenylporphyrinato)(ethanol)ruthenium(III)-bisethanol

AUTHOR(S): Collman, J. P.; Barnes, C. E.; Brothers, P. J.; Collins, T. J.; Ozawa, T.; Gallucci, J. C.; Ibers, James A.

CORPORATE SOURCE: Dep. Chem., Stanford Univ., Stanford, CA, 94305, USA

SOURCE: Journal of the American Chemical Society (1984), 106(18), 5151-63

CODEN: JACSAT; ISSN: 0002-7863

DOCUMENT TYPE: Journal

LANGUAGE: English

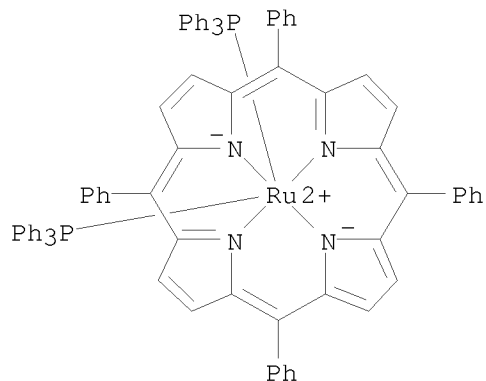
AB [Ru(Por)(OR)]₂O and [Ru(Por)X]₂O (H₂Por = octaethyl-, tetraphenyl-, tetrapropylporphyrin; R = Me, Et, C₆H₄CH₃-p, C₆H₄OH-o; X = Br, Cl, CF₃CO₂, HSO₄) were prepared by tert-BuOOH oxidation of Ru(Por)(CO)(R'OH) (R' = Me, Et). [Ru(TPP)(p-OC₆H₄CH₃)]₂O (H₂TPP = tetraphenylporphyrin) crystallizes in the triclinic space group P.hivin.1 with Z = 2, a 16.911(11), b 10.802(12), c 12.979(8) Å, α 99.96(3), β 104.31(2), and γ 77.32(2)°. Least-squares refinement led to a R (on F²) = 0.177 based on 7630 independent reflections. The Ru-O(Ru) and Ru-O(p-OC₆H₄CH₃) bond lengths are 1.789(1) and 1.964(11) Å, resp., and the Ru-O-Ru angle is 177.8(7)°. The Ru(IV) μ -oxo complexes are reduced by NaBH₄ or PPh₃ to form Ru(Por)L₂ (L = PPh₃, THF). Ru(TPP)(EtOH)₂ in noncoordinating solvents is oxidized by O to [Ru(TPP)(OEt)]₂O, but in the presence of excess EtOH the oxidation stops at Ru(TPP)(OEt)(EtOH):2EtOH (I). In noncoordinating solvents I is further oxidized by O to the Ru(IV) μ -oxo ethoxide complex. I crystallizes in the triclinic space group P.hivin.1 with Z = 1, a 9.894(4), β 12.946(6), c 9.758(5) Å, α 112.06(2), β 94.12(2), and γ 71.85(2)°. Least-square refinement based on 5073 unique reflections led to a final R index (on F²) of 0.106. The centrosym. complex exhibits 1 Ru-O bond length of 2.019(3) Å. These results demonstrate the solvent dependence of the interaction of O with Ru porphyrins. I is the 1st to be structurally characterized.

IT 34690-40-9P 90554-99-7P

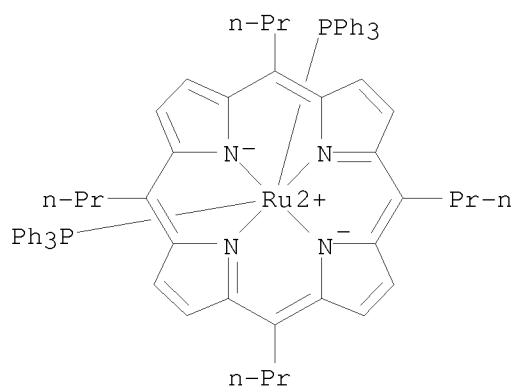
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

RN 34690-40-9 CAPLUS

CN Ruthenium, [5,10,15,20-tetraphenyl-21H,23H-porphinato(2-)- κ N21, κ N22, κ N23, κ N24]bis(triphenylphosphine)-,
(OC-6-12)- (9CI) (CA INDEX NAME)



RN 90554-99-7 CAPLUS
 CN Ruthenium, [5,10,15,20-tetraphenyl-21H,23H-porphinato(2-)-N21,N22,N23,N24]bis(triphenylphosphine)-, (OC-6-12)- (9CI) (CA INDEX NAME)



L6 ANSWER 59 OF 72 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1984:447643 CAPLUS
 DOCUMENT NUMBER: 101:47643
 ORIGINAL REFERENCE NO.: 101:7279a,7282a
 TITLE: Five- and six-coordinate ruthenium(II) porphyrin tertiary phosphine complexes and their reactions with dioxygen via inner- and outer-sphere mechanisms
 AUTHOR(S): James, Brian R.; Mikkelsen, Susan R.; Leung, Tak W.; Williams, Gregory M.; Wong, Ralph
 CORPORATE SOURCE: Chem. Dep., Univ. British Columbia, Vancouver, BC, V6T 1Y6, Can.
 SOURCE: Inorganica Chimica Acta (1984), 85(2), 209-13
 CODEN: ICHAA3; ISSN: 0020-1693
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB Ru(OEP)(PPh3) (H2OEP = octaethylporphyrin) was prepared by reduction of Ru(OEP)(PPh3)Br by using Zn amalgam. Ru(OEP)(PPh3)n (n = 1, 2) undergo reaction in toluene with O to generate OPPh3, RuO2, and H2OEP; trace H2O and [Ru(OEP)(OH)]2O are implicated in the oxidation reaction, which is

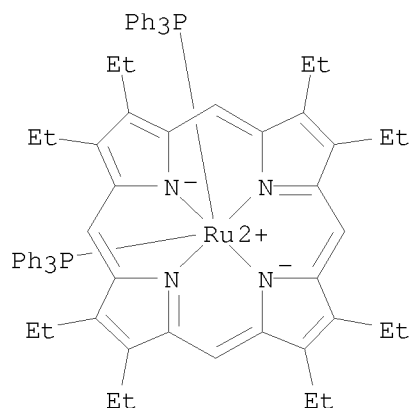
considered to be initiated by coordination of O to Ru(OEP)(PPh₃). In contrast, a catalytic O-oxidation of excess PPh₃ to the oxide probably goes via an initial outer-sphere reaction with Ru(OEP)(PPh₃)₂ that generates superoxide and Ru(III), both detectable by ESR; the superoxide is believed to be stabilized via proton addition as HO₂ radical that subsequently disproportionates to O and H₂O₂. PPh₃ is oxidized by the peroxide, and during a reduction step that regenerates the Ru(II) catalyst from Ru(III).

IT 80684-90-8P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and reaction with oxygen)

RN 80684-90-8 CAPLUS

CN Ruthenium, [2,3,7,8,12,13,17,18-octaethyl-21H,23H-porphinato(2-)-N21,N22,N23,N24]bis(triphenylphosphine)-, (OC-6-12)- (9CI) (CA INDEX NAME)

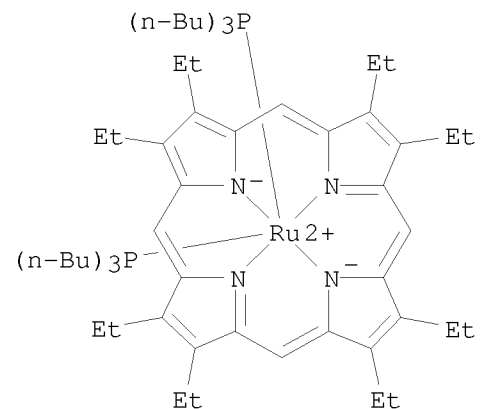


IT 79008-52-9

RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with oxygen in presence of pyridine)

RN 79008-52-9 CAPLUS

CN Ruthenium, [2,3,7,8,12,13,17,18-octaethyl-21H,23H-porphinato(2-)-N21,N22,N23,N24]bis(tributylphosphine)-, (OC-6-12)- (9CI) (CA INDEX NAME)



L6 ANSWER 60 OF 72 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1984:407415 CAPLUS

DOCUMENT NUMBER: 101:7415

ORIGINAL REFERENCE NO.: 101:1267a,1270a

TITLE: Preparation and characterization of some ruthenium(II) porphyrins containing tertiary phosphine axial ligands, including the crystal structure of (octaethylporphinato)bis(triphenylphosphine)ruthenium(II)

AUTHOR(S): Ariel, Sara; Dolphin, David; Domazetis, George; James, Brian R.; Leung, Tak W.; Rettig, Steven J.; Trotter, James; Williams, Gregory M.

CORPORATE SOURCE: Dep. Chem., Univ. Br. Columbia, Vancouver, BC, V6T 1Y6, Can.

SOURCE: Canadian Journal of Chemistry (1984), 62(4), 755-62
CODEN: CJCHAG; ISSN: 0008-4042

DOCUMENT TYPE: Journal

LANGUAGE: English

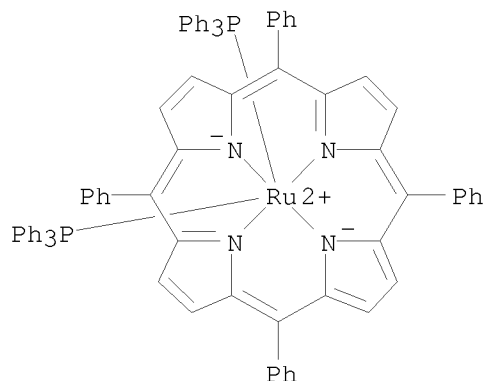
AB The crystal structure of (OEP)Ru(PPh₃)₂ (OEP = octaethylporphyrin dianion), prepared from (OEP)Ru(CO)(EtOH), was determined. Also prepared were Ru(TPP)(L₂) [I; TPP = tetraphenylporphyrin; L = PPh₃, PC₆H₄OMe-p)₃, PBu₃] and Ru(TPP)(CO)PPh₃. Phosphine ligands dissociate from Ru(OEP)L₂ and I to give 5-coordinate species. The equilibrium consts. for dissociation were determined in PhMe at 20°.

IT 34690-40-9P 90502-27-5P 90510-32-0P
90510-33-1P

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation and dissociation of)

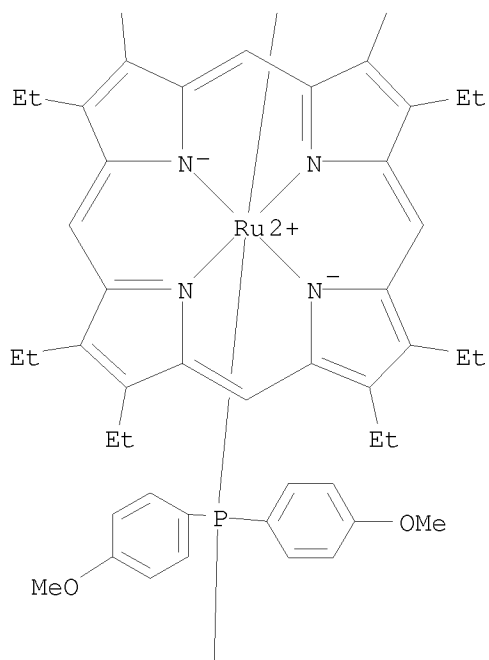
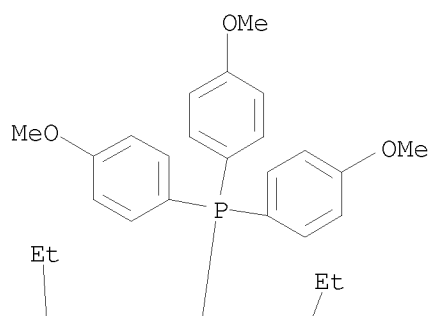
RN 34690-40-9 CAPLUS

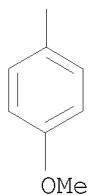
CN Ruthenium, [5,10,15,20-tetraphenyl-21H,23H-porphinato(2-)-
κN21,κN22,κN23,κN24]bis(triphenylphosphine)-,
(OC-6-12)- (9CI) (CA INDEX NAME)



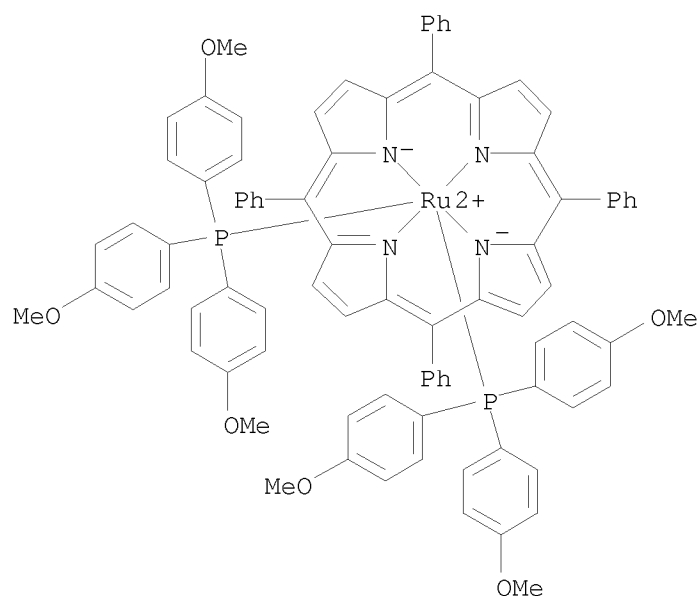
RN 90502-27-5 CAPLUS

CN Ruthenium, [2,3,7,8,12,13,17,18-octaethyl-21H,23H-porphinato(2-)-
N21,N22,N23,N24]bis[tris(4-methoxyphenyl)phosphine-P]-, (OC-6-12)- (9CI)
(CA INDEX NAME)

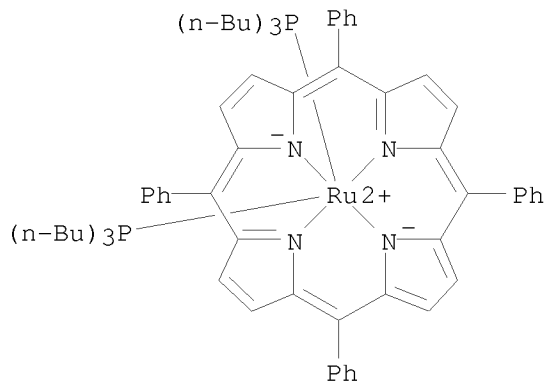




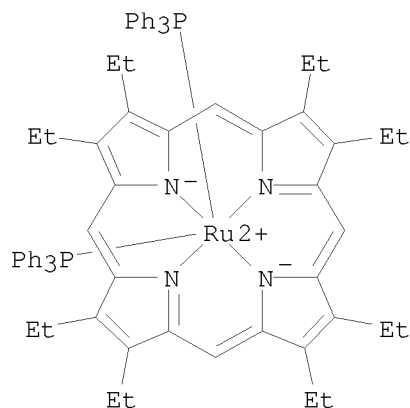
RN 90510-32-0 CAPLUS
 CN Ruthenium, [5,10,15,20-tetraphenyl-21H,23H-porphinato(2-)-
 N21,N22,N23,N24]bis[tris(4-methoxyphenyl)phosphine-P]-, (OC-6-12)- (9CI)
 (CA INDEX NAME)



RN 90510-33-1 CAPLUS
 CN Ruthenium, [5,10,15,20-tetraphenyl-21H,23H-porphinato(2-)-
 N21,N22,N23,N24]bis(tributylphosphine)-, (OC-6-12)- (9CI) (CA INDEX NAME)



IT 80684-90-8P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation, crystal structure, and dissociation of)
 RN 80684-90-8 CAPLUS
 CN Ruthenium, [2,3,7,8,12,13,17,18-octaethyl-21H,23H-porphinato(2-)-
 N21,N22,N23,N24]bis(triphenylphosphine)-, (OC-6-12)- (9CI) (CA INDEX
 NAME)



L6 ANSWER 61 OF 72 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1984:150036 CAPLUS
 DOCUMENT NUMBER: 100:150036
 ORIGINAL REFERENCE NO.: 100:22737a,22740a
 TITLE: Mono- and binuclear ruthenium(II) Schiff-base
 complexes: spectrophotometric and electrochemical
 studies
 AUTHOR(S): Doine, Hideo; Stephens, Frank F.; Cannon, Roderick D.
 CORPORATE SOURCE: Sch. Chem. Sci., Univ. East Anglia, Norwich, NR4 7TJ,
 UK
 SOURCE: Inorganica Chimica Acta (1984), 82(2), 149-51
 CODEN: ICHAA3; ISSN: 0020-1693
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB [(Ph3P)2Ru]2L (I, H4L = C(CH2N:CHC6H4-o-OH)4) and (Ph3P)2RhL' (H2L' =

H₂C(CH₂N:CHC₆H₄-o-OH)₂) were prepared and their half-wave potentials obtained by cyclic voltammetry. Electronic absorption spectra are given for the prepared and fully oxidized complexes. Titration of I with Co sepulchrate did not yield a mixed-valence species.

IT 89413-47-8 89413-48-9

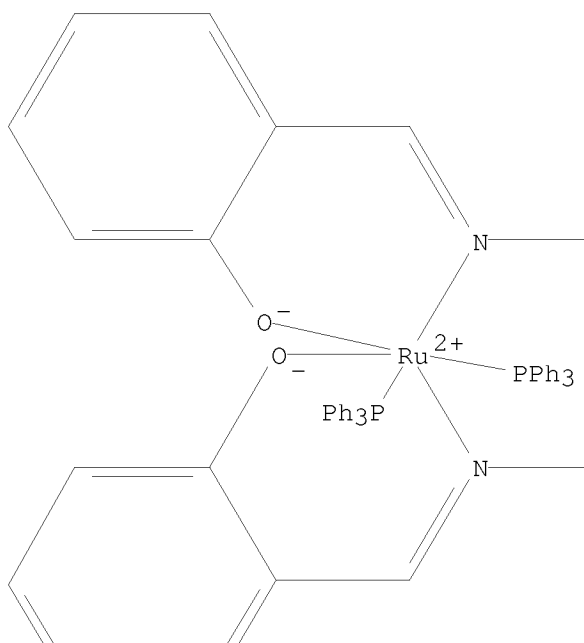
RL: PRP (Properties)

(electronic spectrum of)

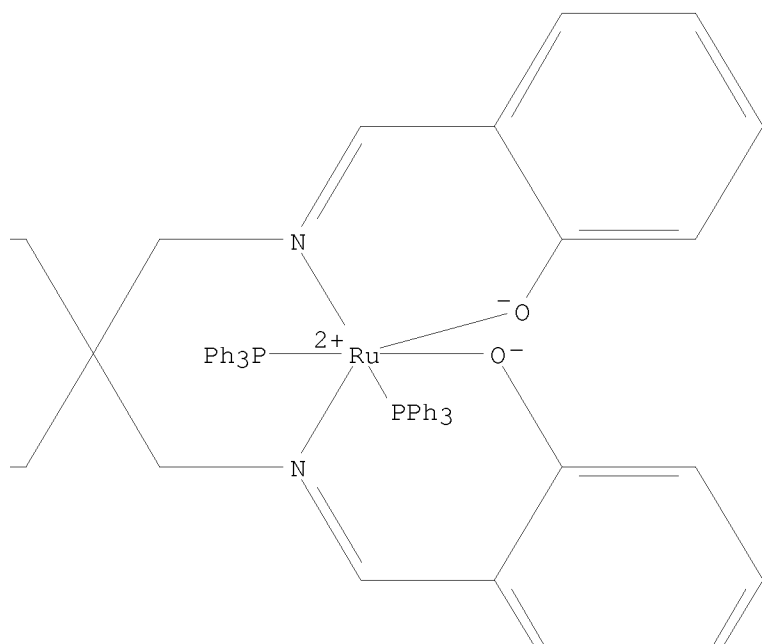
RN 89413-47-8 CAPLUS

CN Ruthenium, [μ -[[2,2'-[[3,3-bis[[[(2-hydroxyphenyl)methylene]amino]methyl]-1,3-propanediyl]]bis(nitrilomethylidene)]bis[phenolato]](4-)]tetrakis(triphenylphosphine)di- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



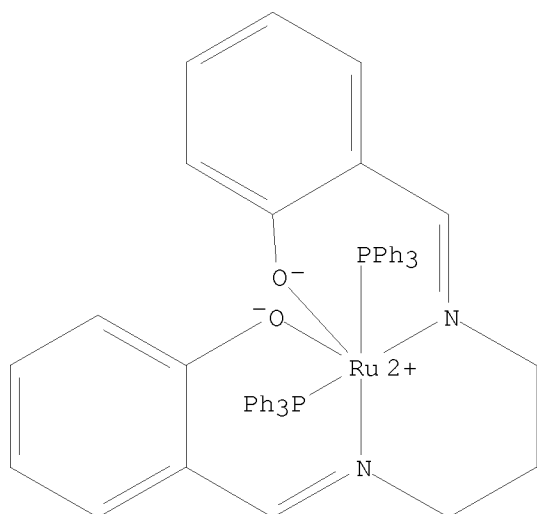
PAGE 2-A



PAGE 2-B

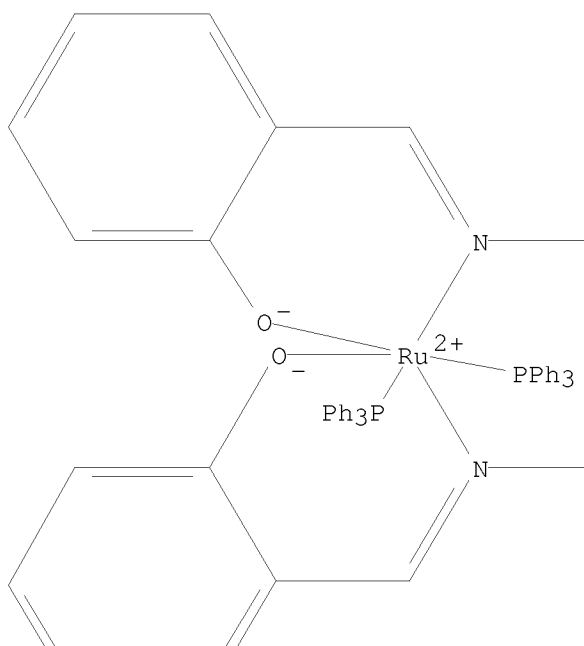


RN 89413-48-9 CAPLUS
 CN Ruthenium, [[2,2'-[1,3-propanediylbis(nitrilomethylidyne)]bis[phenolato]](2-)-N,N',O,O']bis(triphenylphosphine)- (9CI) (CA INDEX NAME)

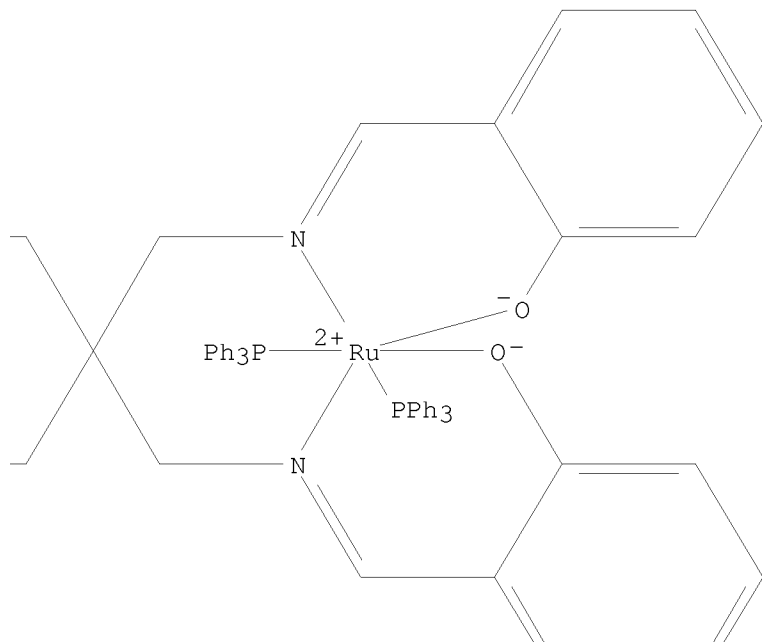


IT 89413-47-8DP, electrochem. oxidation product 89413-48-9DP,
electrochem. oxidation product
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(preparation and cyclic voltammetry of)
RN 89413-47-8 CAPLUS
CN Ruthenium, [μ -[[2,2'-[[3,3-bis[[[(2-
hydroxyphenyl)methylene]amino]methyl]-1,3-
propanediyl]bis(nitrilomethylidyne)]bis[phenolato]](4-
)]tetrakis(triphenylphosphine)di- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



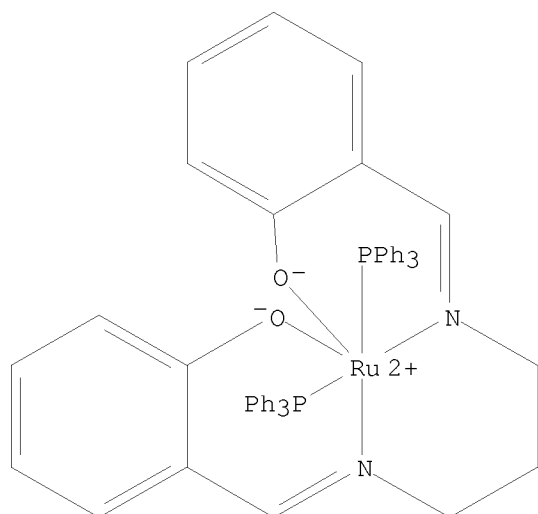
PAGE 2-A



PAGE 2-B



RN 89413-48-9 CAPLUS
 CN Ruthenium, [[2,2'-[1,3-propanediylbis(nitrilomethylidyne)]bis[phenolato]](2-)-N,N',O,O']bis(triphenylphosphine)- (9CI) (CA INDEX NAME)



L6 ANSWER 62 OF 72 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1983:594207 CAPLUS

DOCUMENT NUMBER: 99:194207

ORIGINAL REFERENCE NO.: 99:29887a,29890a

TITLE: Synthesis and redox chemistry of octaethylporphyrin complexes of ruthenium(II) and ruthenium(III)

AUTHOR(S): Barley, Mark; Becker, James Y.; Domazetis, George; Dolphin, David; James, Brian R.

CORPORATE SOURCE: Dep. Chem., Univ. British Columbia, Vancouver, BC, V6T 1Y6, Can.

SOURCE: Canadian Journal of Chemistry (1983), 61(10), 2389-96
CODEN: CJCHAG; ISSN: 0008-4042

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The syntheses and characterization of new octaethylporphyrin complexes $\text{Ru}(\text{OEP})(\text{PBU}_3)_2$, $\text{Ru}(\text{OEP})(\text{CO})\text{L}$ ($\text{L} = \text{PPh}_3, \text{PBU}_3$), $[\text{Ru}(\text{OEP})(\text{PBU}_3)_2]\text{Br}$, and $\text{Ru}(\text{OEP})(\text{PBU}_3)\text{Br}$ (OEP is the dianion of octaethylporphyrin) are described. $\text{Ru}(\text{OEP})(\text{CO})\text{EtOH}$ (I) which reversibly loses the ethanol ligand in CH_2Cl_2 solution, undergoes a one-equivalent oxidation at the porphyrin ligand to generate

the cation-radical $[\text{Ru}(\text{OEP})^{\bullet+}(\text{CO})]^+$; a purple species of 2A_{2u} ground state, produced electrochem. in perchlorate media, can coordinate bromide to generate a green 2A_{1u} ground state species that also results from oxidation of I using bromine. Coordination of pyridine to $[\text{Ru}(\text{OEP})^{\bullet+}(\text{CO})]^+$ yields the $\text{Ru}(\text{OEP})^{\bullet+}(\text{CO})\text{py}$ species that can also be formed by electrochem. oxidation of $\text{Ru}(\text{OEP})(\text{CO})\text{py}$. Addition of tertiary phosphines (PR₃) to the cation-radical carbonyl species can lead to $[\text{Ru}(\text{OEP})(\text{PR}_3)_2]^+$, via an internal electron transfer process from Ru(II) to the OEP^{•+} that appears to be triggered by loss of the CO ligand. A reversible one-electron electrochem. oxidation of $\text{Ru}(\text{OEP})(\text{PBU}_3)_2$ at 0.03 V (vs. Ag/AgCl) in CH_2Cl_2 also gives the ruthenium(III) biphosphine cation, while a further one-electron oxidation at 1.2 V generates $[\text{Ru}(\text{OEP})^{\bullet+}(\text{PBU}_3)_2]^{2+}$, a ruthenium(III) π -cation radical characterized by ESR. The $[\text{Ru}(\text{OEP})(\text{PBU}_3)_2]\text{Br}$ complex decomp. in the solid state to a mixture of $\text{Ru}(\text{OEP})(\text{PBU}_3)\text{Br}$, formed together with phosphine via an intramol. ligand

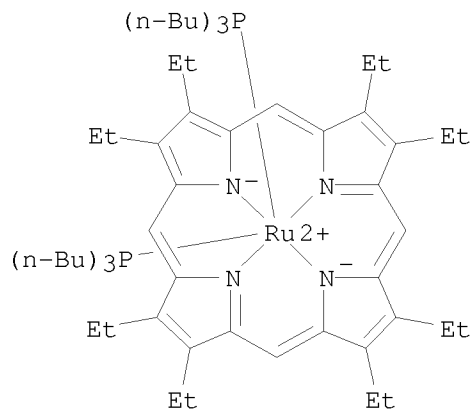
exchange, and $\text{Ru}(\text{OEP})(\text{P}^t\text{Bu}_3)_2$, formed by reduction of the initial ionic ruthenium(III) cation with the phosphine that appears as $[\text{P}^t\text{Bu}_3\text{Br}]\text{Br}$.

IT 79008-52-9P 80684-84-0P 80684-85-1P
80684-90-8P

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation and redox chemical of)

RN 79008-52-9 CAPLUS

CN Ruthenium, [2,3,7,8,12,13,17,18-octaethyl-21H,23H-porphinato(2-)-
N21,N22,N23,N24]bis(tributylphosphine)-, (OC-6-12)- (9CI) (CA INDEX NAME)



RN 80684-84-0 CAPLUS

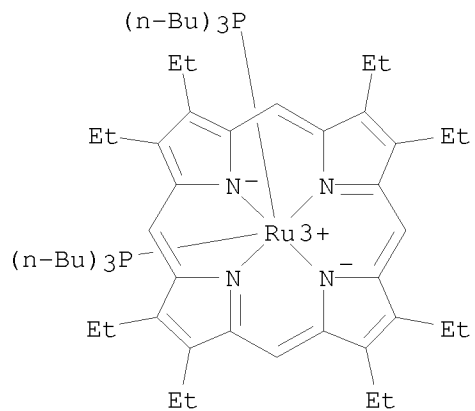
CN Ruthenium(1+), [2,3,7,8,12,13,17,18-octaethyl-21H,23H-porphinato(2-)-
N21,N22,N23,N24]bis(tributylphosphine)-, (OC-6-12)-, perchlorate (9CI)
(CA INDEX NAME)

CM 1

CRN 80684-83-9

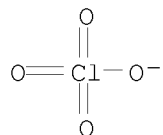
CMF C60 H98 N4 P2 Ru

CCI CCS

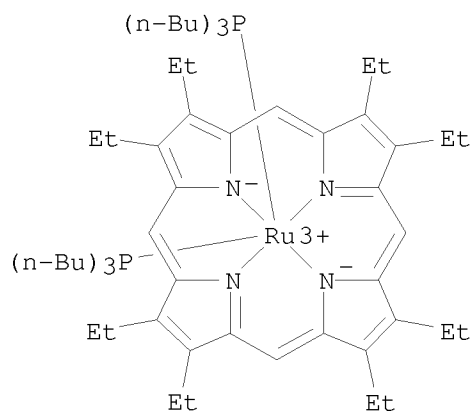


CM 2

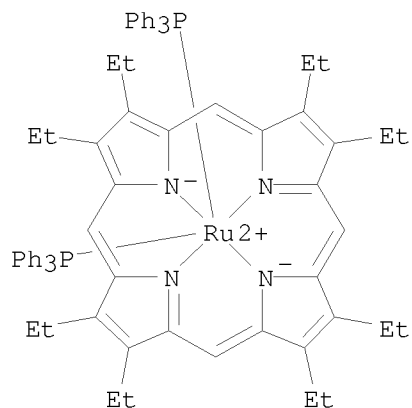
CRN 14797-73-0
CMF Cl O4



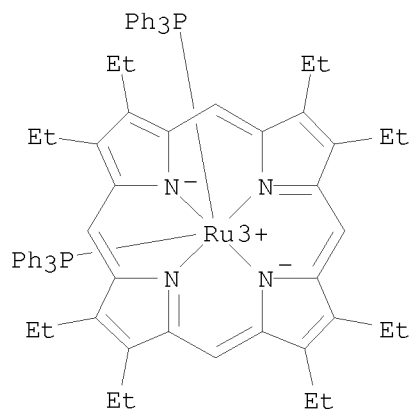
RN 80684-85-1 CAPLUS
CN Ruthenium(1+), [2,3,7,8,12,13,17,18-octaethyl-21H,23H-porphinato(2-)-N21,N22,N23,N24]bis(tributylphosphine)-, bromide, (OC-6-12)- (9CI) (CA INDEX NAME)



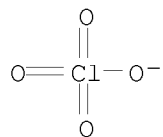
RN 80684-90-8 CAPLUS
CN Ruthenium, [2,3,7,8,12,13,17,18-octaethyl-21H,23H-porphinato(2-)-N21,N22,N23,N24]bis(triphenylphosphine)-, (OC-6-12)- (9CI) (CA INDEX NAME)



IT 80684-87-3P 87809-99-2P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of)
 RN 80684-87-3 CAPLUS
 CN Ruthenium(1+), [2,3,7,8,12,13,17,18-octaethyl-21H,23H-porphinato(2-)-
 N21,N22,N23,N24]bis(triphenylphosphine)-, (OC-6-12)-, perchlorate (9CI)
 (CA INDEX NAME)
 CM 1
 CRN 80684-86-2
 CMF C72 H74 N4 P2 Ru
 CCI CCS



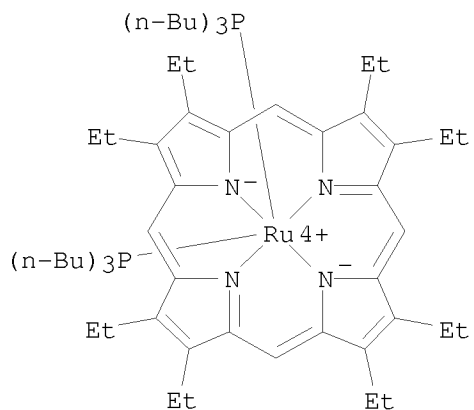
CM 2
 CRN 14797-73-0
 CMF C1 O4



RN 87809-99-2 CAPLUS
 CN Ruthenium(2+), [2,3,7,8,12,13,17,18-octaethyl-21H,23H-porphinato(2-)-N21,N22,N23,N24]bis(tributylphosphine)-, (OC-6-12)-, diperchlorate (9CI)
 (CA INDEX NAME)

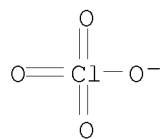
CM 1

CRN 87809-98-1
 CMF C60 H98 N4 P2 Ru
 CCI CCS



CM 2

CRN 14797-73-0
 CMF C1 O4



L6 ANSWER 63 OF 72 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1982:68677 CAPLUS
 DOCUMENT NUMBER: 96:68677
 ORIGINAL REFERENCE NO.: 96:11277a,11280a
 TITLE: Redox chemistry of ruthenium porphyrins: evidence for
 internal electron transfer and the characterization of

[Ru(III)(OEP+•)] species

AUTHOR(S): Barley, Mark; Becker, James Y.; Domazetis, George; Dolphin, David; James, Brian R.

CORPORATE SOURCE: Dep. Chem., Univ. British Columbia, Vancouver, BC, V6T 1Y6, Can.

SOURCE: Journal of the Chemical Society, Chemical Communications (1981), (19), 982-3
CODEN: JCCCAT; ISSN: 0022-4936

DOCUMENT TYPE: Journal

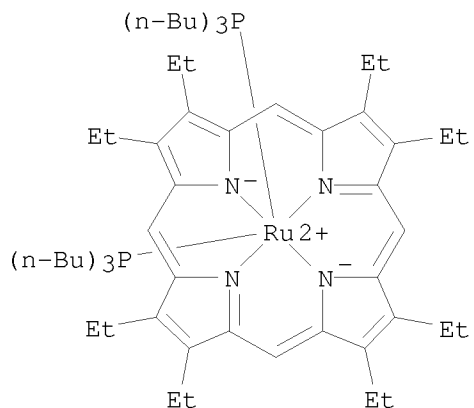
LANGUAGE: English

AB [Ru(II)(L•+)(CO)L1]+ (L = octaethylporphyrin, L1 = EtOH, py), generated from [Ru(II)L(CO)L1] electrochem. or by Br2 oxidation, react with ≥ 2 equiv L2 (L2 = PBu3, PPh3) to give [Ru(III)LL22] (I). I were also prepared electrochem. (and reversibly) from [Ru(II)LL22]. The cyclic voltammogram of I (L2 = PBu3) shows a wave attributable to the cation radical [Ru(III)(L•+)LL22]2+ (II). II (L2 = PBu3) was characterized by ESR and UV/visible spectroscopy.

IT 79008-52-9 80684-90-8
RL: RCT (Reactant); RACT (Reactant or reagent)
(oxidation of, radical cation by electrochem.)

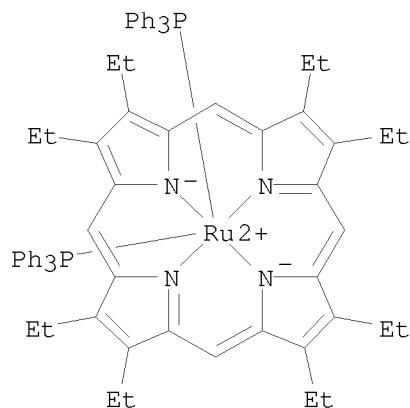
RN 79008-52-9 CAPLUS

CN Ruthenium, [2,3,7,8,12,13,17,18-octaethyl-21H,23H-porphinato(2-)-N21,N22,N23,N24]bis(tributylphosphine)-, (OC-6-12)- (9CI) (CA INDEX NAME)

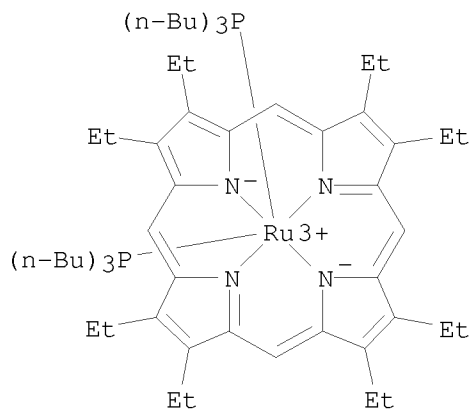


RN 80684-90-8 CAPLUS

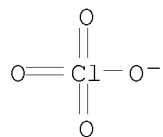
CN Ruthenium, [2,3,7,8,12,13,17,18-octaethyl-21H,23H-porphinato(2-)-N21,N22,N23,N24]bis(triphenylphosphine)-, (OC-6-12)- (9CI) (CA INDEX NAME)



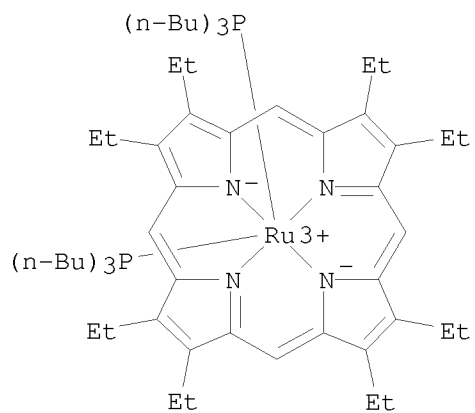
IT 80684-84-0P 80684-85-1P 80684-87-3P
 80684-88-4P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation and radical cation formation by)
 RN 80684-84-0 CAPLUS
 CN Ruthenium(1+), [2,3,7,8,12,13,17,18-octaethyl-21H,23H-porphinato(2-)-
 N21,N22,N23,N24]bis(tributylphosphine)-, (OC-6-12)-, perchlorate (9CI)
 (CA INDEX NAME)
 CM 1
 CRN 80684-83-9
 CMF C60 H98 N4 P2 Ru
 CCI CCS



CM 2
 CRN 14797-73-0
 CMF C1 O4



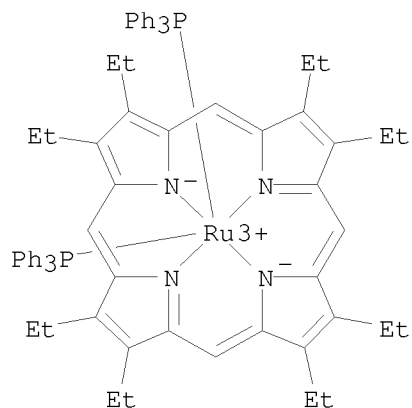
RN 80684-85-1 CAPLUS
 CN Ruthenium(1+), [2,3,7,8,12,13,17,18-octaethyl-21H,23H-porphinato(2-)-N21,N22,N23,N24]bis(tributylphosphine)-, bromide, (OC-6-12)- (9CI) (CA INDEX NAME)



RN 80684-87-3 CAPLUS
 CN Ruthenium(1+), [2,3,7,8,12,13,17,18-octaethyl-21H,23H-porphinato(2-)-N21,N22,N23,N24]bis(triphenylphosphine)-, (OC-6-12)-, perchlorate (9CI) (CA INDEX NAME)

CM 1

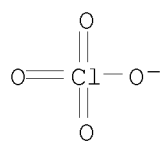
CRN 80684-86-2
 CMF C72 H74 N4 P2 Ru
 CCI CCS



CM 2

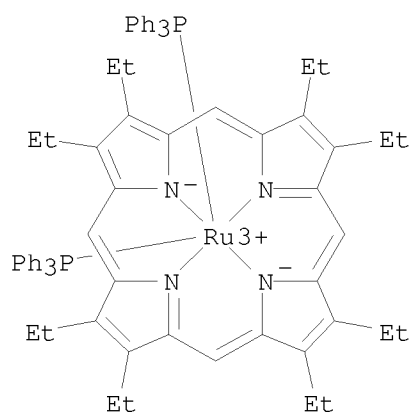
CRN 14797-73-0

CMF Cl O4

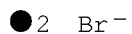
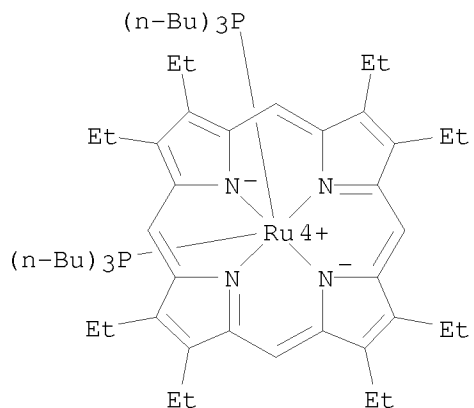


RN 80684-88-4 CAPLUS

CN Ruthenium(1+), [2,3,7,8,12,13,17,18-octaethyl-21H,23H-porphinato(2-)-N21,N22,N23,N24]bis(triphenylphosphine)-, bromide, (OC-6-12)-(9CI) (CA INDEX NAME)



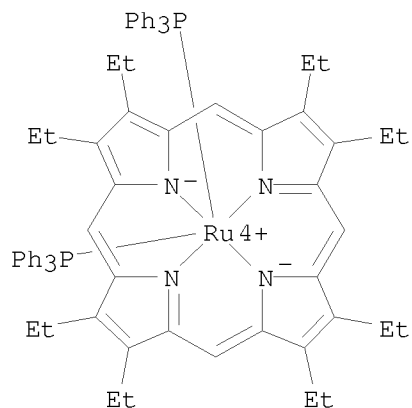
IT 80675-25-8P 80675-27-0P 80675-28-1P
 87809-99-2P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of)
 RN 80675-25-8 CAPLUS
 CN Ruthenium(2+), [2,3,7,8,12,13,17,18-octaethyl-21H,23H-porphinato(2-)-
 N21,N22,N23,N24]bis(tributylphosphine)-, dibromide, (OC-6-12)- (9CI) (CA
 INDEX NAME)



RN 80675-27-0 CAPLUS
 CN Ruthenium(2+), [2,3,7,8,12,13,17,18-octaethyl-21H,23H-porphinato(2-)-
 N21,N22,N23,N24]bis(triphenylphosphine)-, (OC-6-12)-, diperchlorate (9CI)
 (CA INDEX NAME)

CM 1

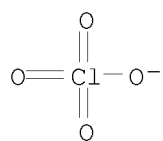
CRN 80675-26-9
 CMF C72 H74 N4 P2 Ru
 CCI CCS



CM 2

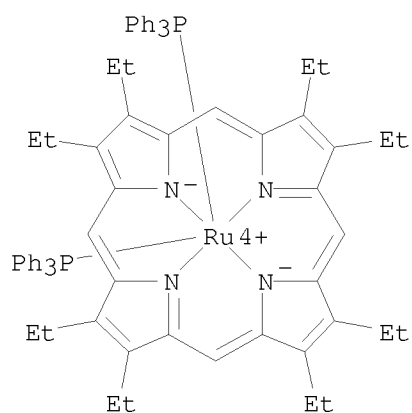
CRN 14797-73-0

CMF Cl O4



RN 80675-28-1 CAPLUS

CN Ruthenium(2+), [2,3,7,8,12,13,17,18-octaethyl-21H,23H-porphinato(2-)-N21,N22,N23,N24]bis(triphenylphosphine)-, dibromide, (OC-6-12)- (9CI) (CA INDEX NAME)

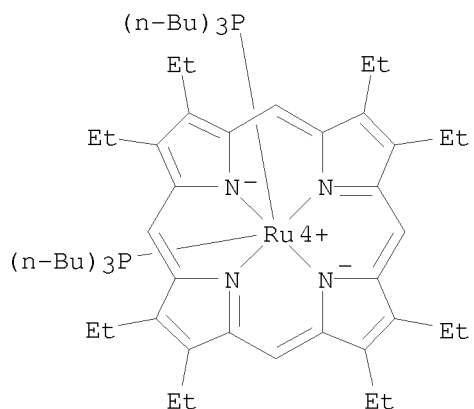


● 2 Br⁻

RN 87809-99-2 CAPLUS
 CN Ruthenium(2+), [2,3,7,8,12,13,17,18-octaethyl-21H,23H-porphinato(2-)-N21,N22,N23,N24]bis(tributylphosphine)-, (OC-6-12)-, diperchlorate (9CI)
 (CA INDEX NAME)

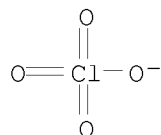
CM 1

CRN 87809-98-1
 CMF C60 H98 N4 P2 Ru
 CCI CCS



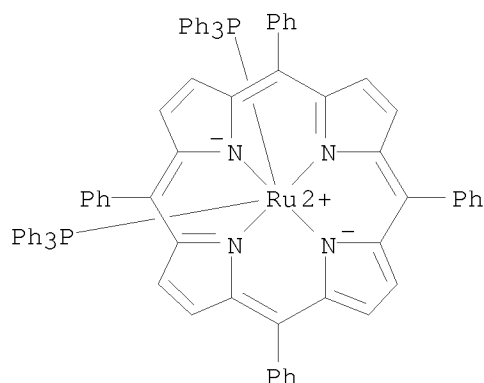
CM 2

CRN 14797-73-0
 CMF Cl O4



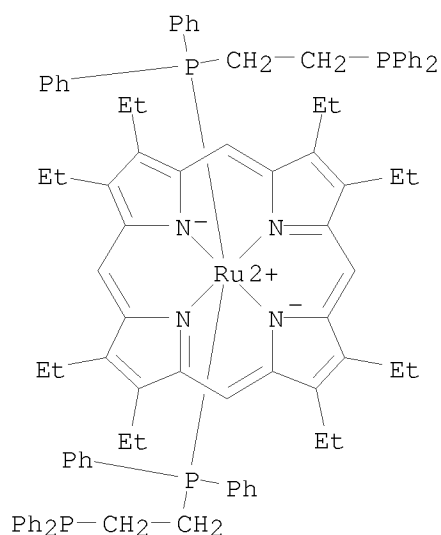
L6 ANSWER 64 OF 72 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1981:619416 CAPLUS
 DOCUMENT NUMBER: 95:219416
 ORIGINAL REFERENCE NO.: 95:36601a,36604a
 TITLE: Decarbonylation of aldehydes using ruthenium(II) porphyrin catalysts
 AUTHOR(S): Domazetis, G.; James, B. R.; Tarpey, B.; Dolphin, D.
 CORPORATE SOURCE: Dep. Chem., Univ. British Columbia, Vancouver, BC, V6T 1Y6, Can.
 SOURCE: ACS Symposium Series (1981), 152(Catal. Act. Carbon Monoxide), 243-52
 CODEN: ACSMC8; ISSN: 0097-6156
 DOCUMENT TYPE: Journal

LANGUAGE: English
 AB Decarboxylation of aldehydes, e.g., PhCHO, 1-heptanal, and cyclohexanecarboxaldehyde over $\text{RRu}(\text{Ph}_3\text{P})_2\text{-Bu}_3\text{P}$ (R = tetraphenylporphyrin dianion) gave the hydrocarbons, e.g., C_6H_6 , hexane, and cyclohexane, resp.
 IT 34690-40-9
 RL: CAT (Catalyst use); USES (Uses)
 (catalysts, for decarbonylation of aldehydes)
 RN 34690-40-9 CAPLUS
 CN Ruthenium, [5,10,15,20-tetraphenyl-21H,23H-porphinato(2-)- $\kappa\text{N}21,\kappa\text{N}22,\kappa\text{N}23,\kappa\text{N}24$]bis(triphenylphosphine)-, (OC-6-12)- (9CI) (CA INDEX NAME)



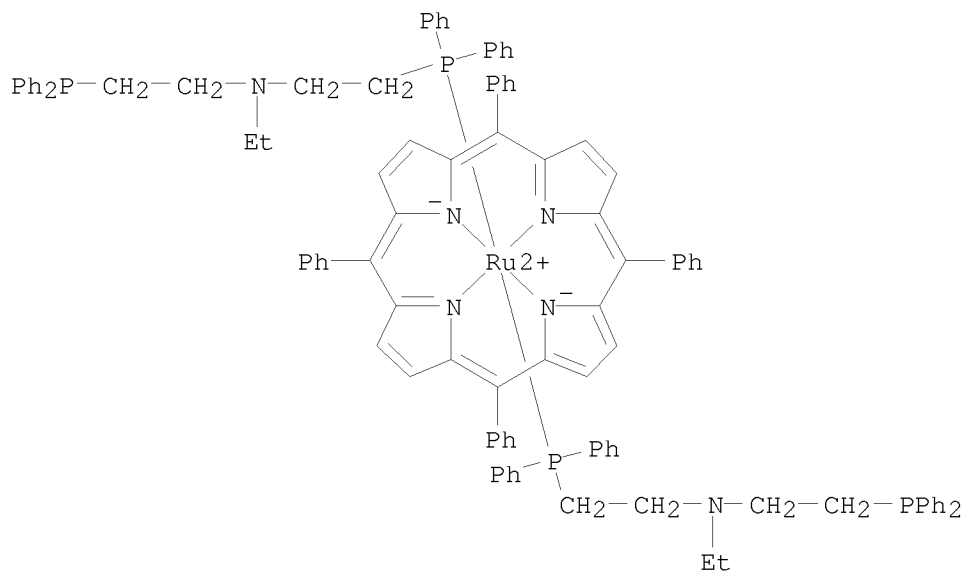
L6 ANSWER 65 OF 72 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1981:541381 CAPLUS
 DOCUMENT NUMBER: 95:141381
 ORIGINAL REFERENCE NO.: 95:23521a,23524a
 TITLE: Ruthenium(II) porphyrin complexes: NMR spectral evidence for out-of-plane ruthenium, and for seven-coordinate species
 AUTHOR(S): Domazetis, G.; James, B. R.; Dolphin, D.
 CORPORATE SOURCE: Chem. Dep., Univ. British Columbia, Vancouver, BC, V6T 1Y6, Can.
 SOURCE: Inorganica Chimica Acta (1981), 54(1), L47-L49
 CODEN: ICHAA3; ISSN: 0020-1693
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB 1H NMR spectra are reported for $\text{Ru}(\text{OEP})(\text{Bu}_3\text{P})_2$ (OEP = octaethylporphyrin dianion), $\text{Ru}(\text{OEP})(\text{CO})\text{L}$ (L = ligands containing N and/or P donor atoms), $\text{Ru}(\text{OEP})(\text{np})_2$ (np = diethyl(diphenylphosphinoethyl)amine, $\text{Ru}(\text{TPP})(\text{np})_2$ (TPP = tetraphenylporphyrin dianion), and $\text{Ru}(\text{OEP})(\text{dpe})_2$ (dpe = 1,2-bis(diphenylphosphino)ethane). The data indicate that: (1) within 6-coordinate porphyrin complexes, Ru may move out of the porphyrin plane; and (2) 7-coordinate Ru porphyrins are feasible.
 IT 76584-44-6 76584-45-7 79008-52-9
 79197-57-2
 RL: PRP (Properties)
 (NMR of)
 RN 76584-44-6 CAPLUS
 CN Ruthenium, bis[1,2-ethanediylbis[diphenylphosphine]-P][2,3,7,8,12,13,17,18-octaethyl-21H,23H-porphinato(2-)- $\text{N}21,\text{N}22,\text{N}23,\text{N}24$]-, (OC-6-12)- (9CI) (CA

INDEX NAME)



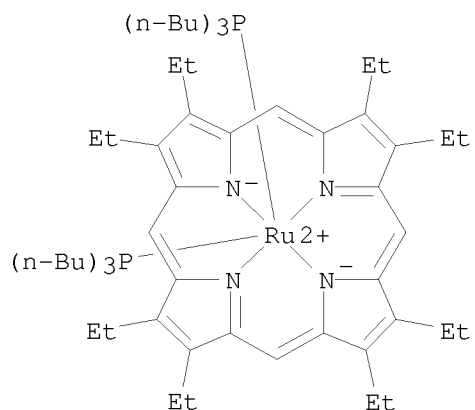
RN 76584-45-7 CAPLUS

CN Ruthenium, bis[2-(diphenylphosphino)-N-[2-(diphenylphosphino)ethyl]-N-ethylethanamine-P][5,10,15,20-tetraethyl-21H,23H-porphinato(2-)-N21,N22,N23,N24]-, (OC-6-12)-(9CI) (CA INDEX NAME)

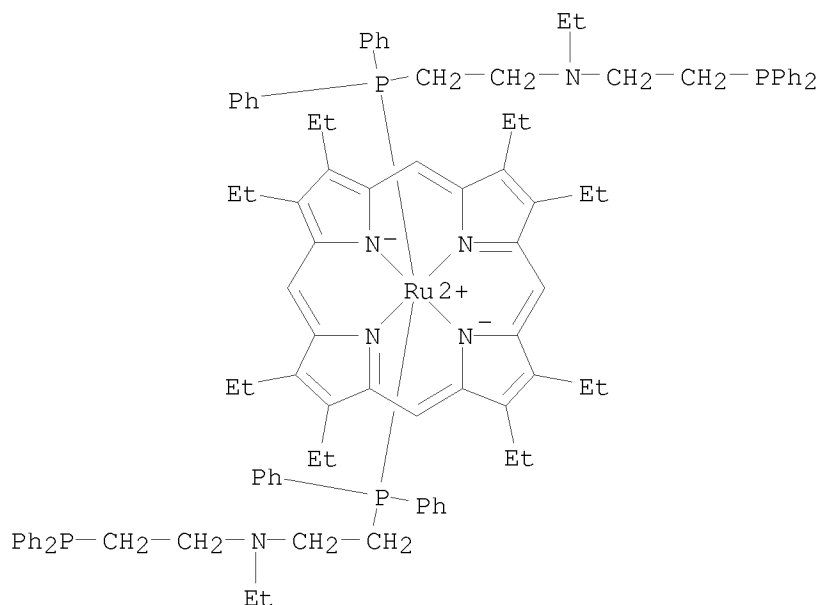


RN 79008-52-9 CAPLUS

CN Ruthenium, [2,3,7,8,12,13,17,18-octaethyl-21H,23H-porphinato(2-)-N21,N22,N23,N24]bis(tributylphosphine)-, (OC-6-12)-(9CI) (CA INDEX NAME)



RN 79197-57-2 CAPLUS
 CN Ruthenium, bis[2-(diphenylphosphino)-N-[2-(diphenylphosphino)ethyl]-N-ethylethanamine-P][2,3,7,8,12,13,17,18-octaethyl-21H,23H-porphinato(2-)-N21,N22,N23,N24]-, (OC-6-12)-(9CI) (CA INDEX NAME)



L6 ANSWER 66 OF 72 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1981:525303 CAPLUS
 DOCUMENT NUMBER: 95:125303
 ORIGINAL REFERENCE NO.: 95:20853a,20856a
 TITLE: N-Macrocyclic complexes of ruthenium(II) and ruthenium(III)
 AUTHOR(S): Walker, Darrel D.; Taube, Henry
 CORPORATE SOURCE: Dep. Chem., Stanford Univ., Stanford, CA, 94305, USA
 SOURCE: Inorganic Chemistry (1981), 20(9), 2828-34
 CODEN: INOCAJ; ISSN: 0020-1669
 DOCUMENT TYPE: Journal

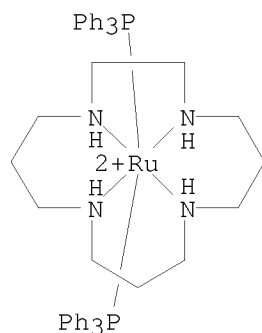
LANGUAGE: English

AB The following new macrocycle ligand complexes of Ru were prepared [Ru(mac)Cl₂]Cl (I, II, and III; mac = 2,3-dimethyl-1,4,8,11-tetraazacyclotetradecane, 1,4,8,12-tetraazacyclopentadecane, and 1,5,9,13-tetraazacyclohexadecane, resp. Compds. I, II, III, along with the previously reported [Ru([14]aneN₄)Cl₂]Cl ([14]aneN₄ = 1,4,8,11-tetraazacyclotetradecane) comprise a series differing in the ring size of the macrocycle. Changes in ring size do not appreciably affect the charge-transfer electronic spectra or the Ru-Cl IR stretching vibration. A small cathodic shift in the formal potential of the Ru(mac)Cl₂+0 couple and a decrease in the chloride affinity of the Ru(II) is observed as the ring size is increased. The structure of [Ru([14]aneN₄)Cl₂]Br was determined from three-dimensional x-ray diffraction anal. and the trans geometry of the chloro ligands was verified. Revealed in the structure are nonbonded interactions within the cation between the chloro ligands and the N-bound H atoms, which affect the charge-transfer spectra of the Ru(III) form.

IT 77846-74-3P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

RN 77846-74-3 CAPLUS

CN Ruthenium(2+), (1,4,8,12-tetraazacyclopentadecane-N1,N4,N8,N12)bis(triphenylphosphine)-, dichloride, (OC-6-13)- (9CI) (CA INDEX NAME)

● 2 Cl⁻

L6 ANSWER 67 OF 72 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1981:201950 CAPLUS

DOCUMENT NUMBER: 94:201950

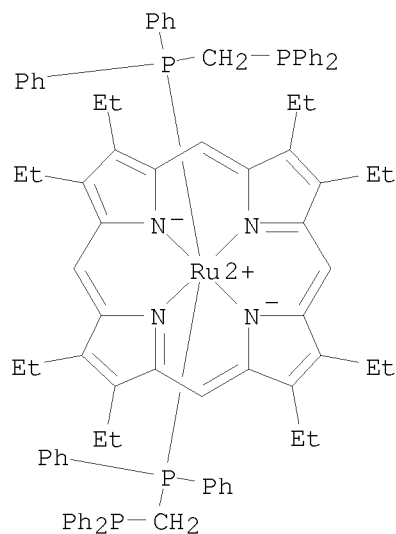
ORIGINAL REFERENCE NO.: 94:32919a,32922a

TITLE: Studies of ruthenium(II) porphyrins containing tertiary diphosphine ligands, including the crystal structure of (5,10,15,20-tetraphenylporphinato)bis(bis(diphenylphosphino)methane)ruthenium(II)dichloromethane

AUTHOR(S): Ball, R. G.; Domazetis, G.; Dolphin, D.; James, B. R.; Trotter, J.

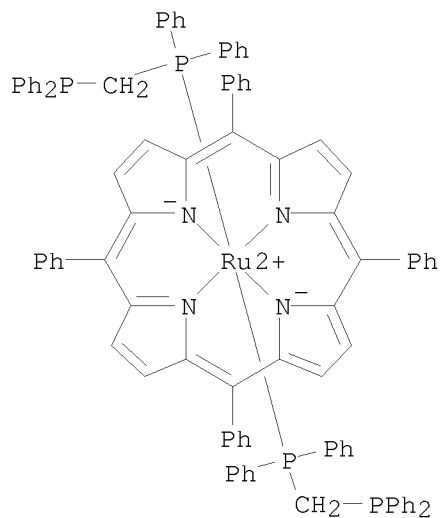
CORPORATE SOURCE: Dep. Chem., Univ. British Columbia, Vancouver, BC, V6T

1Y6, Can.
 SOURCE: Inorganic Chemistry (1981), 20(5), 1556-62
 CODEN: INOCAJ; ISSN: 0020-1669
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB Ru(porp)(PP)2 [H2porp = octaethylporphine (OEP), tetraphenylporphine (TPP); PP = Ph2P(CH2)nPPh2 (n = 1, 2), Ph2P(CH2)2NEt(CH2)2PPh2] were prepared in high yields from Ru(porp)(CO)(EtOH). The crystal structure of Ru(TPP)(Ph2PCH2PPh2)2 shows six-coordinate Ru situated in the porphyrin plane and coordinated to two axial monodentate phosphine ligands, which each have a free dangling P donor. Ru(porp)(PP)2 (n = 2) almost certainly has the same structure and is the first reported case of a compound containing this common diphosphine in a monodentate fashion. The 31P NMR spectra of the Ru(porp)[Ph2P(CH2)nPPh2]2 compds. indicate further structures in solution, including species with a chelated diphosphine. An isolated Ru(OEP)[Ph2P(CH2)4PPh2] complex is likely a polymer incorporating diphosphine bridges.
 IT 76584-46-8
 RL: PRP (Properties)
 (phosphorus-31 NMR spectrum of, in organic solvents)
 RN 76584-46-8 CAPLUS
 CN Ruthenium, bis[methylenebis[diphenylphosphine]-P][2,3,7,8,12,13,17,18-octaethyl-21H,23H-porphinato(2-)-N21,N22,N23,N24]-, (OC-6-12)- (9CI) (CA INDEX NAME)



IT 76584-43-5P
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (preparation and crystal structure of)
 RN 76584-43-5 CAPLUS
 CN Ruthenium, bis[methylenebis[diphenylphosphine]-P][5,10,15,20-tetraphenyl-21H,23H-porphinato(2-)-N21,N22,N23,N24]-, (OC-6-12)-, compd. with dichloromethane (1:1) (9CI) (CA INDEX NAME)
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CRN 76584-42-4
 CMF C94 H72 N4 P4 Ru
 CCI CCS

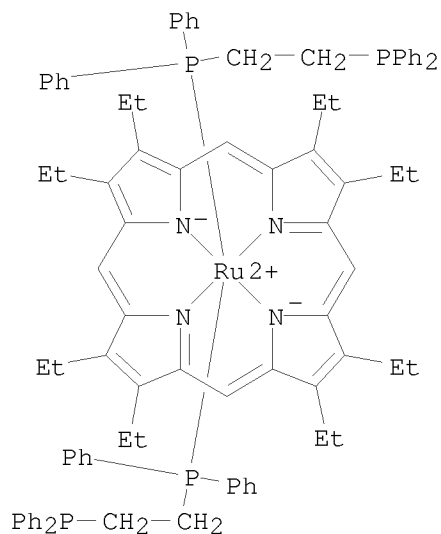


CM 2

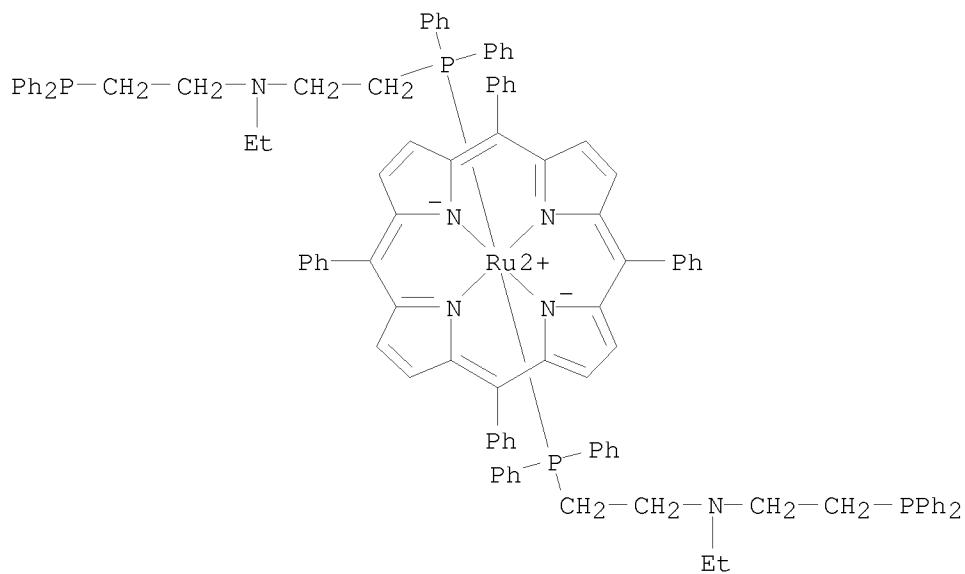
CRN 75-09-2
 CMF C H2 Cl2

Cl-CH₂-Cl

IT 76584-44-6P 76584-45-7P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of)
 RN 76584-44-6 CAPLUS
 CN Ruthenium, bis[1,2-ethanediylbis[diphenylphosphine]-P][2,3,7,8,12,13,17,18-
 octaethyl-21H,23H-porphinato(2-)-N21,N22,N23,N24]-, (OC-6-12)- (9CI) (CA
 INDEX NAME)

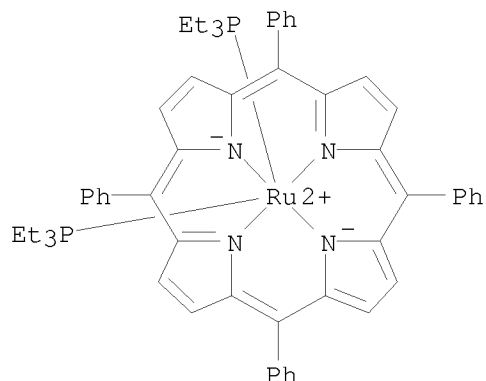


RN 76584-45-7 CAPLUS
 CN Ruthenium, bis[2-(diphenylphosphino)-N-[2-(diphenylphosphino)ethyl]-N-ethylethanamine-P][5,10,15,20-tetraphenyl-21H,23H-porphinato(2-)-N21,N22,N23,N24]-, (OC-6-12)-(9CI) (CA INDEX NAME)



L6 ANSWER 68 OF 72 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1981:139277 CAPLUS
 DOCUMENT NUMBER: 94:139277
 ORIGINAL REFERENCE NO.: 94:22793a,22796a
 TITLE: Metalloporphyrin-catalyzed hydroxylation of
 cyclohexane by alkyl hydroperoxides: special

efficiency of iron porphyrins
 AUTHOR(S): Mansuy, Daniel; Bartoli, Jean Francois; Chottard, Jean Claude; Lange, Marc
 CORPORATE SOURCE: Lab. Chim., Ec. Norm. Super., Paris, F-75231, Fr.
 SOURCE: Angewandte Chemie (1980), 92(11), 938-9
 CODEN: ANCEAD; ISSN: 0044-8249
 DOCUMENT TYPE: Journal
 LANGUAGE: German
 OTHER SOURCE(S): CASREACT 94:139277
 AB The hydroxylation cyclohexane with PhCMe₂OOH in the presence of metalloporphyrins was studied. Fe³⁺(TPP)Cl (TPP = meso-tetraphenylporphyrin) gave 40% cyclohexanol and 20% cyclohexane after 15 min and Mn³⁺(TPP)Cl gave 25 and 12%, resp., after 10 days; these are the only real catalysts. Co²⁺(TPP) gave 45 and 23%, resp., and Os(TPP)(CO)(py) 5 and 2.5%, resp., after 15 min, but these changed during the reaction. M²⁺(TPP) (M = Cu, Ni, Zn, Mg) and M⁴⁺(TPP)O (M = Ti, V) were completely inactive. A comparison of oxidizing agents gave these results (agent, % cyclohexanol, % cyclohexanone after 15 min given): PhCMe₂OOH, 40, 20; Me₃COOH, 20, 12; PhIO, 12, 1.
 IT 74092-94-7
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (hydroxylation catalysts for cyclohexane)
 RN 74092-94-7 CAPLUS
 CN Ruthenium, [5,10,15,20-tetraphenyl-21H,23H-porphinato(2-)-N21,N22,N23,N24]bis(triethylphosphine)-, (OC-6-12)-(9CI) (CA INDEX NAME)



L6 ANSWER 69 OF 72 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1981:30301 CAPLUS
 DOCUMENT NUMBER: 94:30301
 ORIGINAL REFERENCE NO.: 94:4987a,4990a
 TITLE: Catalytic decarbonylation of aldehydes using ruthenium(II) porphyrin systems
 AUTHOR(S): Domazetis, George; Tarpey, Blaithin; Dolphin, David; James, Brian R.
 CORPORATE SOURCE: Dep. Chem., Univ. British Columbia, Vancouver, BC, V6T 1Y6, Can.
 SOURCE: Journal of the Chemical Society, Chemical Communications (1980), (20), 939-40
 CODEN: JCCCAT; ISSN: 0022-4936
 DOCUMENT TYPE: Journal

LANGUAGE: English

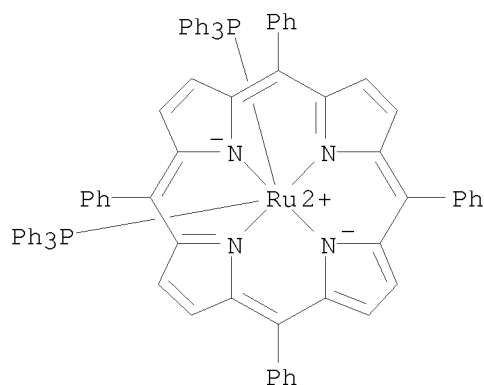
AB RCHO (R = aryl, alkyl, cycloalkyl) were decarbonylated by $\text{LRu}(\text{PPh}_3)_2$ (I; L = tetraphenylporphyrin) under ambient conditions. E.g., decarbonylation of PhCH_2CHO by a catalytic amount of I (MeCN or PhCN, under Ar .apprx.50°, 4 h) gave 90% conversion to a product assaying 95% PhMe.

IT 34690-40-9

RL: CAT (Catalyst use); USES (Uses)
(catalysts, for decarbonylation of aldehydes)

RN 34690-40-9 CAPLUS

CN Ruthenium, [5,10,15,20-tetraphenyl-21H,23H-porphinato(2-)- $\kappa\text{N}21,\kappa\text{N}22,\kappa\text{N}23,\kappa\text{N}24$]bis(triphenylphosphine)-, (OC-6-12)- (9CI) (CA INDEX NAME)



L6 ANSWER 70 OF 72 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1980:483548 CAPLUS

DOCUMENT NUMBER: 93:83548

ORIGINAL REFERENCE NO.: 93:13305a,13308a

TITLE: Synthesis and electrochemical behavior of novel ruthenium(II) tetraphenylporphinate derivatives

AUTHOR(S): Boschi, Tristano; Bontempelli, Gino; Mazzocchin, Gian-Antonio

CORPORATE SOURCE: Fac. Ing., Univ. Padua, Padua, Italy

SOURCE: Inorganica Chimica Acta (1979), 37(2), 155-60

CODEN: ICHAA3; ISSN: 0020-1693

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The reaction of $[\text{RuTPP}(\text{CO})]$ (TPP = meso-tetraphenylporphinate dianion) with several monodentate ligands L (L = tert-Bu isocyanide, PPh_3 , Me_2PhP , PET_3 , $(\text{MeO})_3\text{P}$) yields novel Ru(II) derivs. of formula $[\text{Ru}(\text{TPP})\text{L}_2]$, characterized by their visible IR and proton NMR spectra. The electrochem. behavior of these complexes in an MeCN-benzene 50 volume/volume mixture with Bu_4NClO_4 or Bu_4NBF_4 as supporting electrolyte was studied by employing cyclic voltammetry and controlled potential electrolysis. Both the 1st anodic and the 1st cathodic process observed involves an electron transfer at the central metal yielding Ru(III) and Ru(I) derivs. The potentials related to these processes are strongly dependent on the nature of the ligand L. The influence of the π -bonding abilities of the ligand on the stabilization of the different oxidation states is discussed.

IT 34690-40-9P 74092-94-7P 74092-95-8P

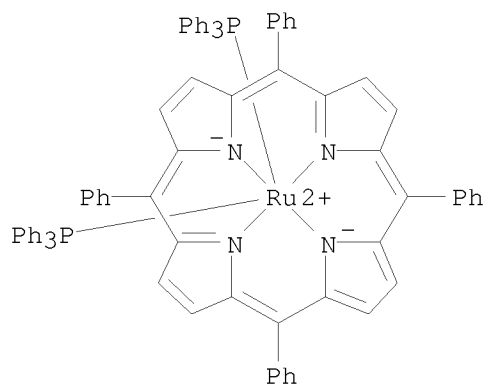
74108-18-2P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation and electrochem. reactions of)

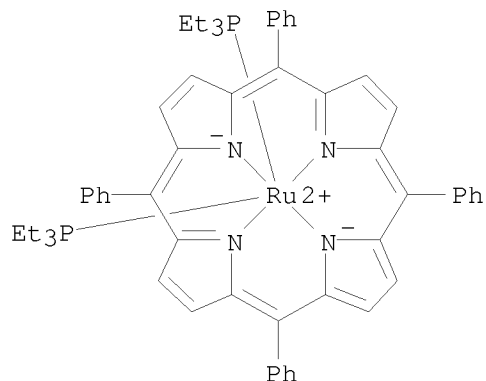
RN 34690-40-9 CAPLUS

CN Ruthenium, [5,10,15,20-tetraphenyl-21H,23H-porphinato(2-)-
κN21,κN22,κN23,κN24]bis(triphenylphosphine)-,
(OC-6-12)- (9CI) (CA INDEX NAME)



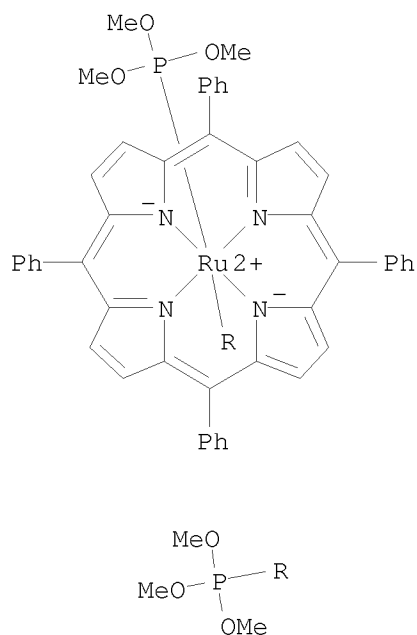
RN 74092-94-7 CAPLUS

CN Ruthenium, [5,10,15,20-tetraphenyl-21H,23H-porphinato(2-)-
N21,N22,N23,N24]bis(triethylphosphine)-, (OC-6-12)- (9CI) (CA INDEX NAME)

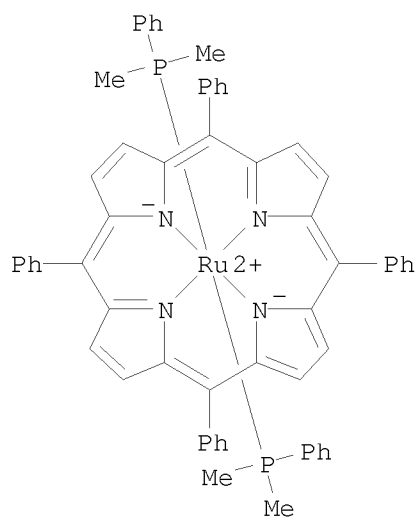


RN 74092-95-8 CAPLUS

CN Ruthenium, [5,10,15,20-tetraphenyl-21H,23H-porphinato(2-)-
N21,N22,N23,N24]bis(trimethyl phosphite-P)-, (OC-6-12)- (9CI) (CA INDEX NAME)



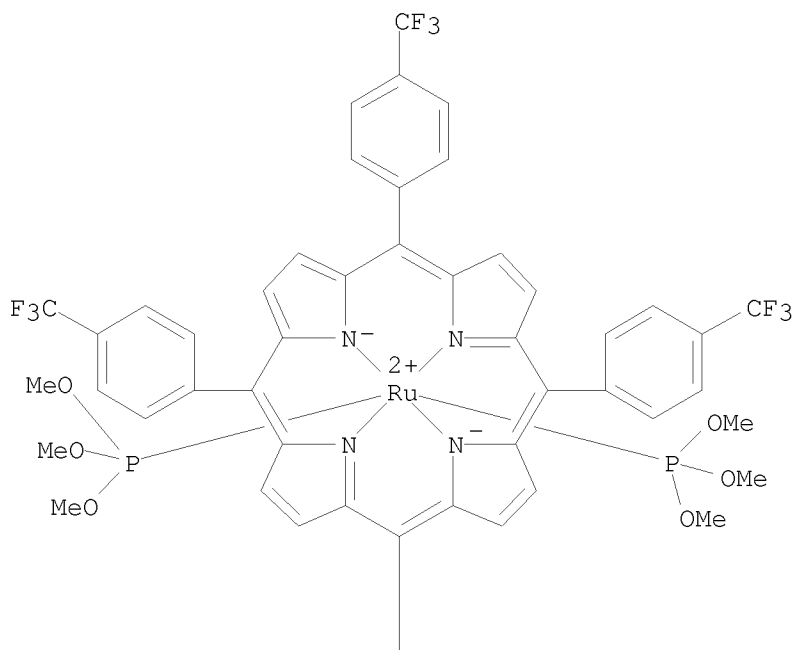
RN 74108-18-2 CAPLUS
 CN Ruthenium, bis(dimethylphenylphosphine) [5,10,15,20-tetraphenyl-21H,23H-porphinato(2-)-N21,N22,N23,N24]-, (OC-6-12)- (9CI) (CA INDEX NAME)

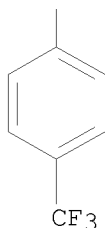


L6 ANSWER 71 OF 72 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1976:37047 CAPLUS
 DOCUMENT NUMBER: 84:37047
 ORIGINAL REFERENCE NO.: 84:6015a,6018a
 TITLE: Carbon-13 nuclear magnetic resonance of substituted tetraphenyl porphyrins and their complexes with

AUTHOR(S): ruthenium, indium, and titanium
 Eaton, S. S.; Eaton, G. R.
 CORPORATE SOURCE: Dep. Chem., Univ. Colorado, Denver, CO, USA
 SOURCE: Inorganic Chemistry (1976), 15(1), 134-9
 CODEN: INOCAJ; ISSN: 0020-1669
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB 13C NMR spectra of H2P and MPXY (P =
 tetrakis(p-trifluoromethylphenyl)porphyrin,
 tetrakis(p-isopropylphenyl)porphyrin, and tetrakis(o-tolyl)porphyrin, M =
 Ru, X = CO, Y = tetrahydrofuran, 4-tert-butylpyridine, X = CO; M = In, X
 = Cl; M = Ti, X = O; P = octaethylporphyrin, M = Ru, X = CO, Y =
 tetrahydrofuran; M = In, X = Cl; and
 ruthenium(tetrakis(p-trifluoromethylphenyl)porphyrin)X2, X =
 trimethylphosphite and tert-butylisocyanide) are reported and interpreted.
 Chemical shift differences for nonequivalent sites and ring current effects
 are compared for 1H and 13C NMR spectra. Significant dependence of
 porphyrin chemical shifts on the metal is observed.
 IT 57091-08-4
 RL: PRP (Properties)
 (NMR of, electron configuration in relation to)
 RN 57091-08-4 CAPLUS
 CN Ruthenium, [5,10,15,20-tetrakis[4-(trifluoromethyl)phenyl]-21H,23H-
 porphinato(2-)-N21,N22,N23,N24]bis(trimethyl phosphite-P)-, (OC-6-12)-
 (9CI) (CA INDEX NAME)

PAGE 1-A





L6 ANSWER 72 OF 72 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1972:14517 CAPLUS

DOCUMENT NUMBER: 76:14517

ORIGINAL REFERENCE NO.: 76:2371a,2374a

TITLE: Derivatives of tetraphenylporphineruthenium (II)

AUTHOR(S): Chow, Ben C.; Cohen, Irwin A.

CORPORATE SOURCE: Dep. Chem., Polytech. Inst. Brooklyn, Brooklyn, NY, USA

SOURCE: Bioinorganic Chemistry (1971), 1(1), 57-63

CODEN: BICHBX; ISSN: 0006-3061

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Carbonyltetraphenylporphineruthenium contains Ru(II), in contrast with the earlier conclusions of others. The characterization of the compound is considered with regard to the role of metal ligand pi bonding. Substitution reactions proceed slowly and have allowed preparation of porphineruthenium(II) derivs. containing axially bound pyridine, Ph₃P, or aniline. All the Ru(II) systems are extremely resistant to oxidation, which occurs only in the presence of cyanide ion to produce the dicyanotetra-phenylporphineruthenium(III) anion. The magnetic properties of the anion are described. CO abstraction from organic substrates was

observed

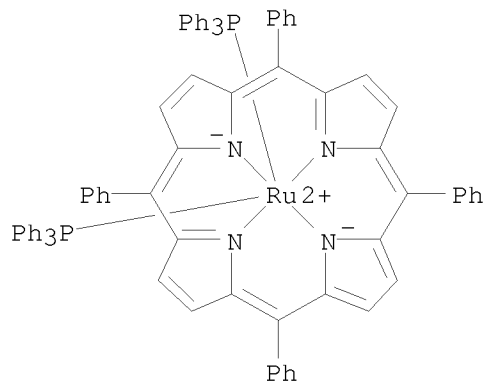
with both Ru(II) and Ru(III). Differences between Fe and Ru porphines are discussed.

IT 34690-40-9P

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

RN 34690-40-9 CAPLUS

CN Ruthenium, [5,10,15,20-tetraphenyl-21H,23H-porphinato(2-)-
κN21,κN22,κN23,κN24]bis(triphenylphosphine)-,
(OC-6-12)- (9CI) (CA INDEX NAME)



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TOTAL

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CA SUBSCRIBER PRICE

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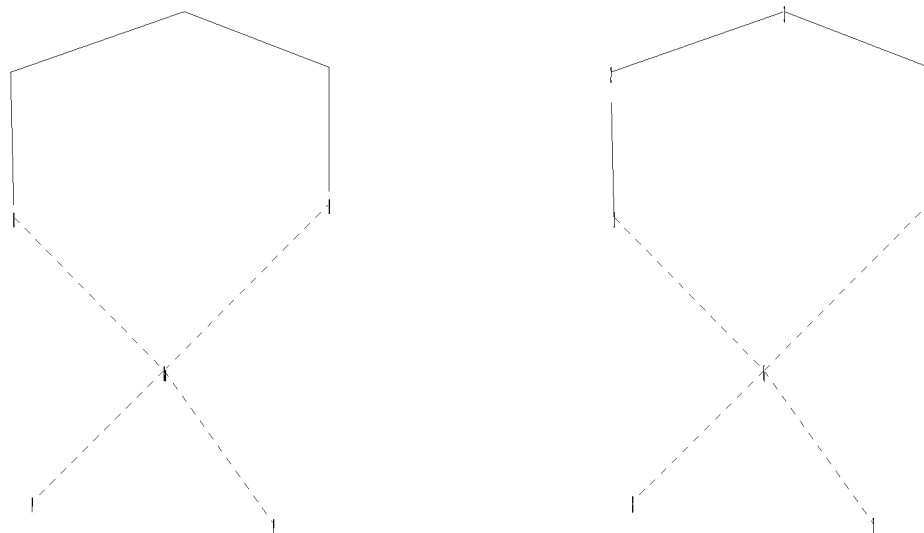
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 6-7 6-8
 ring bonds :

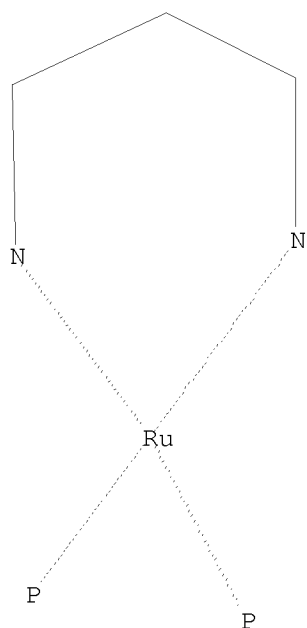
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exact/norm bonds :
1-2 1-6 2-3 3-4 4-5 5-6 6-7 6-8

Match level :
1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:CLASS 8:CLASS

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L7 HAS NO ANSWERS
L7 STR



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BATCH **COMPLETE**
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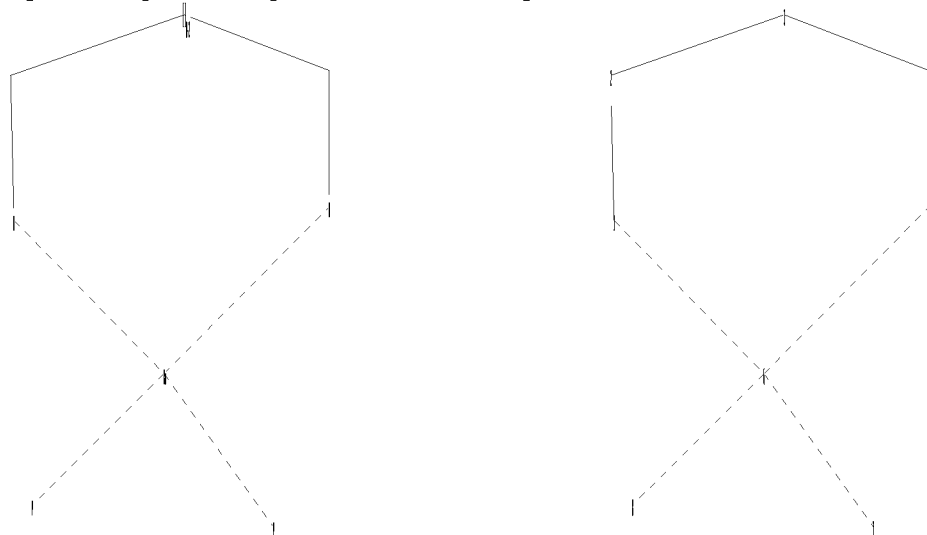
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Match level :

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SEARCH TIME: 00.00.01

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PROJECTED ITERATIONS: 9725 TO 12555
PROJECTED ANSWERS: 1 TO 80

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FILE COVERS 1907 - 25 Jan 2009 VOL 150 ISS 5
FILE LAST UPDATED: 23 Jan 2009 (20090123/ED)

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=> l12
L13 6 L12

=> d ibib abs hitstr 1-6

L13 ANSWER 1 OF 6 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2008:66050 CAPLUS

TITLE: The synthesis and application of BrXuPHOS: a novel monodentate phosphorus ligand for the asymmetric hydrogenation of ketones

AUTHOR(S): Wills, Martin; Xu, Yingjian; Docherty, Gordon; Woodward, Gary

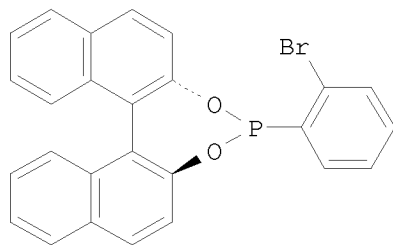
CORPORATE SOURCE: Department of Chemistry, The University of Warwick, Coventry, CV4 7AL, UK

SOURCE: Catalysts for Fine Chemical Synthesis (2007), Volume 5, 116-121. Editor(s): Roberts, Stanley M.; Whittall, John. John Wiley & Sons Ltd.: Chichester, UK. CODEN: 69KIGF

DOCUMENT TYPE: Conference

LANGUAGE: English

GI



I

AB The use of the monodentate phosphorus ligand BrXuPHOS I in a ruthenium complex furnishes a catalyst for the asym. hydrogenation of simple ketones.

IT 798560-99-3P

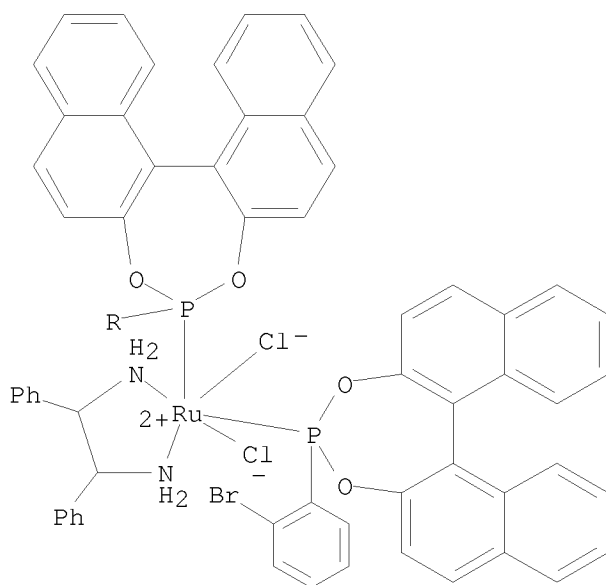
RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)

(preparation of monodentate phosphorus ligand BrXuPHOS and use in Ru-catalyzed asym. hydrogenation of ketones)

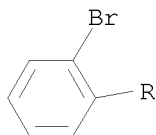
RN 798560-99-3 CAPLUS

CN Ruthenium, bis[(11bS)-4-(2-bromophenyl)dinaphtho[2,1-d:1',2'-f][1,3,2]dioxaphosphepin-κP4]dichloro[(1S,2S)-1,2-diphenyl-1,2-ethanediamine-κN1,κN2]-, (OC-6-13)- (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L13 ANSWER 2 OF 6 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 2006:1268224 CAPLUS
 DOCUMENT NUMBER: 146:206056
 TITLE: Ru(II) complexes of cyclohexanediamine and monodentate phosphorus ligands for asymmetric ketone hydrogenation
 AUTHOR(S): Xu, Yingjian; Docherty, Gordon F.; Woodward, Gary; Wills, Martin
 CORPORATE SOURCE: Asymmetric Catalysis Group, Department of Chemistry, Warwick University, Coventry, CV4 7AL, UK
 SOURCE: Tetrahedron: Asymmetry (2006), 17(20), 2925-2929
 CODEN: TASYE3; ISSN: 0957-4166
 PUBLISHER: Elsevier Ltd.
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 146:206056
 AB The incorporation of a trans-1,2-diaminocyclohexane in place of DPEN provides improvements in enantioselectivity to asym. ketone hydrogenation reactions using BrXuPHOS-Ru-diamine catalysts. Substrates containing

halogenated aryl rings are particularly compatible with this catalyst, however, α -chlorinated ketones remain resistant to reduction under any conditions.

IT 798560-99-3 867288-37-7

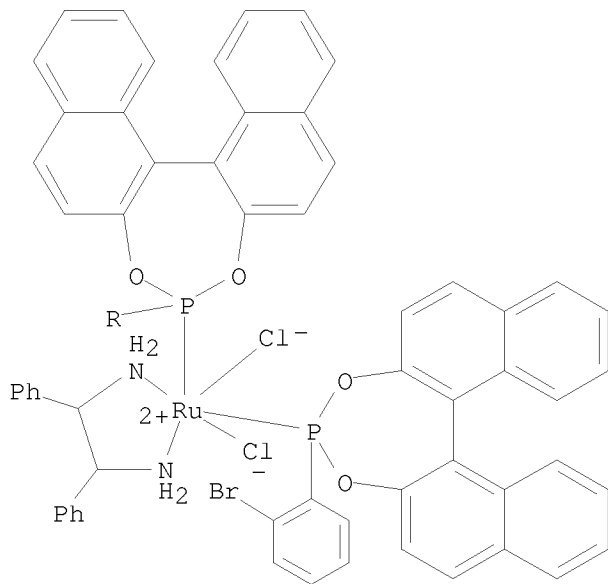
RL: CAT (Catalyst use); USES (Uses)

(Ru(II) complexes of cyclohexanediamine and monodentate phosphorus ligands for asym. ketone hydrogenation)

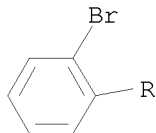
RN 798560-99-3 CAPLUS

CN Ruthenium, bis[(11bS)-4-(2-bromophenyl)dinaphtho[2,1-d:1',2'-f][1,3,2]dioxaphosphepin- κ P4]dichloro[(1S,2S)-1,2-diphenyl-1,2-ethanediamine- κ N1, κ N2]-, (OC-6-13)- (CA INDEX NAME)

PAGE 1-A

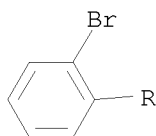
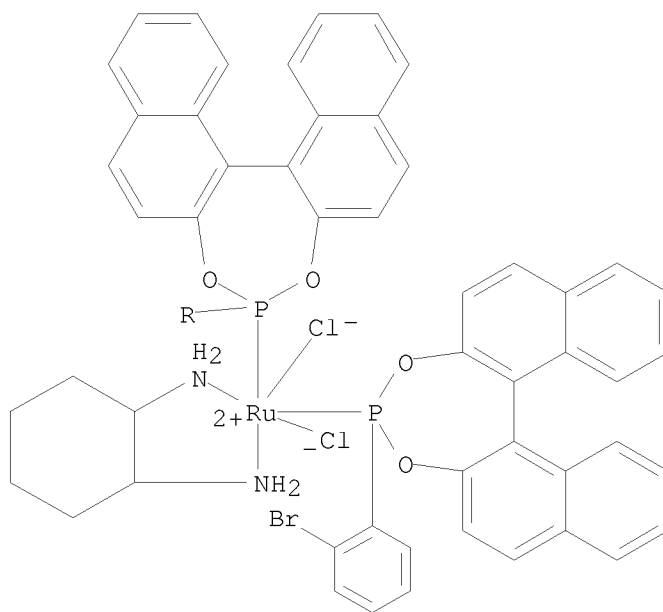


PAGE 2-A



RN 867288-37-7 CAPLUS

CN Ruthenium, bis[(11bR)-4-(2-bromophenyl)dinaphtho[2,1-d:1',2'-f][1,3,2]dioxaphosphepin- κ P4]dichloro[(1R,2R)-1,2-cyclohexanediamine- κ N1, κ N2]-, (OC-6-13)- (CA INDEX NAME)



REFERENCE COUNT: 82 THERE ARE 82 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L13 ANSWER 3 OF 6 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2006:31707 CAPLUS
DOCUMENT NUMBER: 144:110144
TITLE: Monodonor phosphonite ligands
INVENTOR(S): Docherty, Gordon Findlay; Woodward, Gary; Wills,
Martin; Xu, Yingjian
PATENT ASSIGNEE(S): Rhodia Consumer Specialties Limited, UK
SOURCE: PCT Int. Appl., 45 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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WO 2006003431	A1	20060112	WO 2005-GB2614	20050704

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW

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EP 1763399 A1 20070321 EP 2005-757629 20050704

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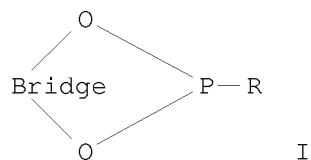
US 20080262269 A1 20081023 US 2008-631565 20080421

PRIORITY APPLN. INFO.: GB 2004-14998 A 20040705

WO 2005-GB2614 W 20050704

OTHER SOURCE(S): MARPAT 144:110144

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AB The invention provides the use of a metal complex, which is a complex of one or more metal atoms or ions with one or more ligands, as a catalyst in an organic transformation selected from hydrogenation of carbon-heteroatom double bonds, hydroformylation, dialkylzinc addns. to aldehydes, hydrocarboxylation, allylic substitution, oxidation, epoxidn., dihydroxylation, Diels-Alder cycloaddns., dipolar cycloaddns. and rearrangement reactions, wherein one or more of the ligands is I, wherein the bridge group is an organic functional group, and the R group is a substituted Ph group, wherein the R group has only one substituent at the ortho position, and wherein a carbon atom of the R group bonds the R group to the P atom.

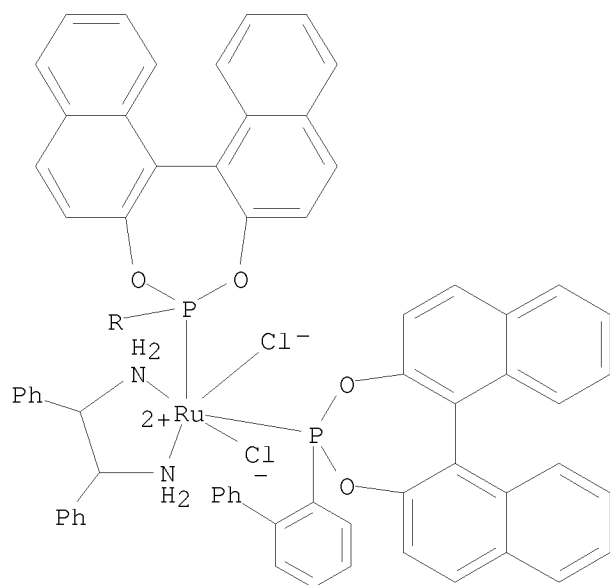
IT 798560-97-1 798560-98-2

RL: CAT (Catalyst use); USES (Uses)
(monodonor phosphonite ligands)

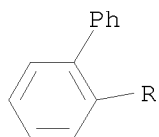
RN 798560-97-1 CAPLUS

CN Ruthenium, bis[(11bR)-4-[1,1'-biphenyl]-2-yl]dinaphtho[2,1-d:1',2'-f][1,3,2]dioxaphosphepin-κP4]dichloro[(1R,2R)-1,2-diphenyl-1,2-ethanediamine-κN,κN']-, (OC-6-13)- (9CI) (CA INDEX NAME)

PAGE 1-A

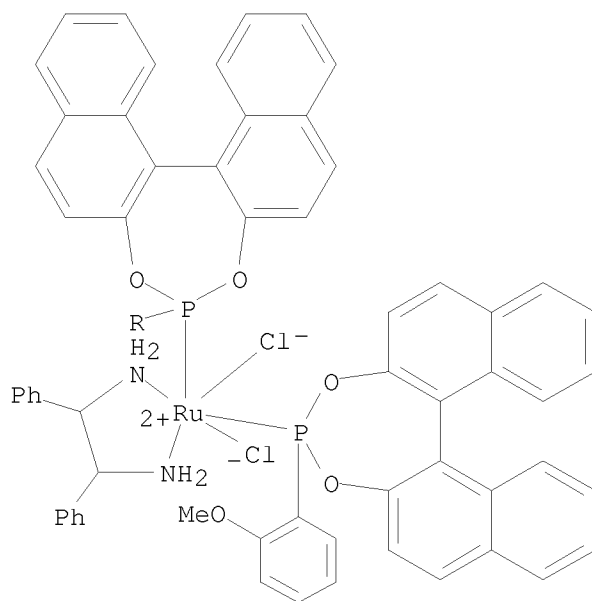


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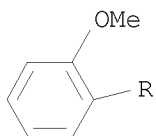


RN 798560-98-2 CAPLUS
 CN Ruthenium, dichloro[(1S,2S)-1,2-diphenyl-1,2-ethanediamine-
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PAGE 1-A



PAGE 2-A

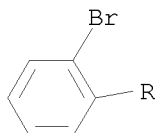
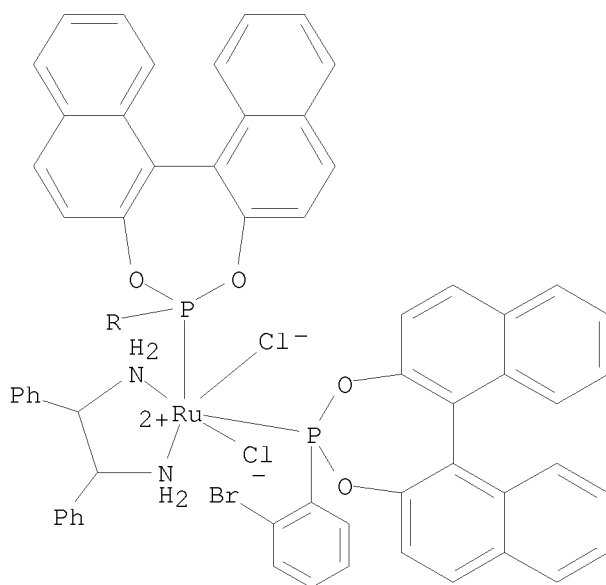


IT 798560-99-3P
 RL: CAT (Catalyst use); IMF (Industrial manufacture); PREP (Preparation);
 USES (Uses)
 (monodonor phosphonite ligands)

RN 798560-99-3 CAPLUS

CN Ruthenium, bis[(11bS)-4-(2-bromophenyl)dinaphtho[2,1-d:1',2'-
 f][1,3,2]dioxaphosphepin-κP4]dichloro[(1S,2S)-1,2-diphenyl-1,2-
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PAGE 2-A



L13 ANSWER 4 OF 6 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2005:921277 CAPLUS
DOCUMENT NUMBER: 143:405648
TITLE: Ruthenium(II) Complexes of Monodonor Ligands:
Efficient Reagents for Asymmetric Ketone Hydrogenation
AUTHOR(S): Xu, Yingjian; Clarkson, Guy C.; Docherty, Gordon;
North, Carl L.; Woodward, Gary; Wills, Martin
CORPORATE SOURCE: Department of Chemistry, University of Warwick,
Coventry, CV4 7AL, UK
SOURCE: Journal of Organic Chemistry (2005), 70(20), 8079-8087
CODEN: JOCEAH; ISSN: 0022-3263
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 143:405648
AB A series of BINOL-derived ligands have been prepared and incorporated into
ruthenium(II) complexes containing a diamine ligand. The complexes have
proven to be excellent catalysts for the asym. hydrogenation of ketones,

giving reduction products with enantiomeric excesses of up to 99%.

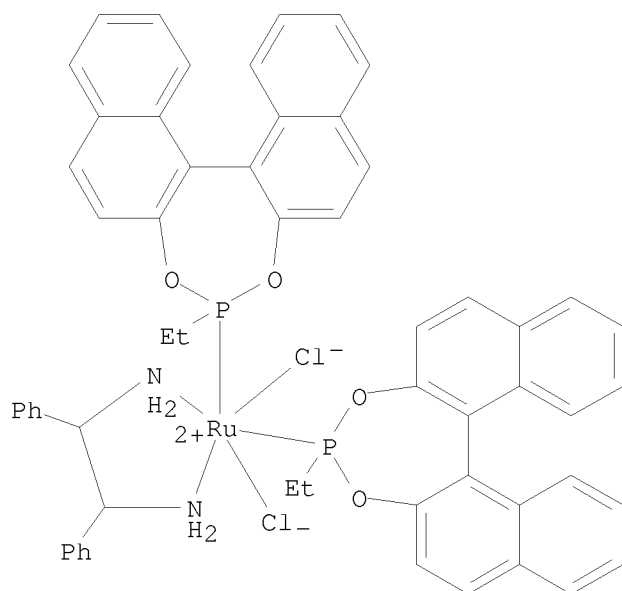
IT 798560-94-8P 798560-95-9P 798560-96-0P
798560-98-2P 798560-99-3P 798561-00-9P
799291-87-5P 867288-36-6P 867288-37-7P
867349-28-8P 867349-38-0P 867349-40-4P
867349-42-6P

RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation);
USES (Uses)

(preparation of ruthenium(II) complexes of monodonor ligands as efficient
catalysts for asym. ketone hydrogenation)

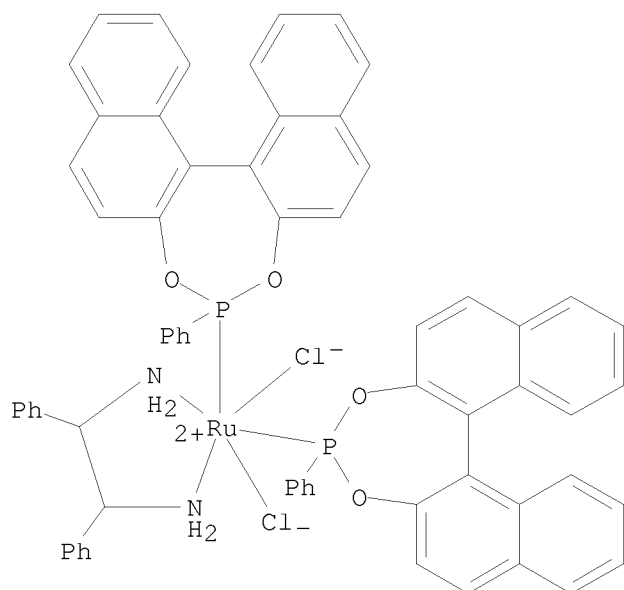
RN 798560-94-8 CAPLUS

CN Ruthenium, dichloro[(1S,2S)-1,2-diphenyl-1,2-ethanediamine-
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RN 798560-95-9 CAPLUS

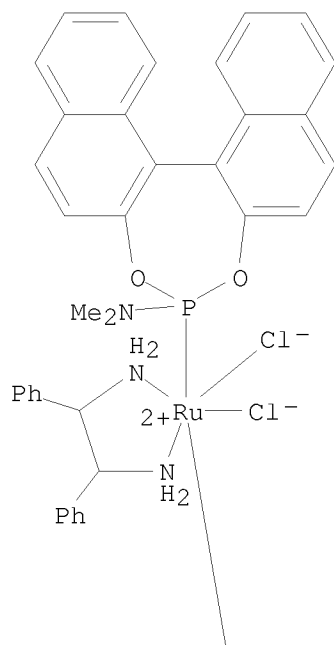
CN Ruthenium, dichloro[(1S,2S)-1,2-diphenyl-1,2-ethanediamine-
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f][1,3,2]dioxaphosphepin- $\kappa P4$]-, (OC-6-13)- (9CI) (CA INDEX NAME)



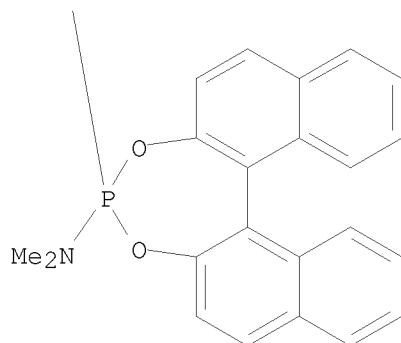
RN 798560-96-0 CAPLUS

CN Ruthenium, dichlorobis[(11bS)-N,N-dimethyldinaphtho[2,1-d:1',2'-f][1,3,2]dioxaphosphepin-4-amine-κP4][(1S,2S)-1,2-diphenyl-1,2-ethanediamine-κN,κN']-, (OC-6-13)- (9CI) (CA INDEX NAME)

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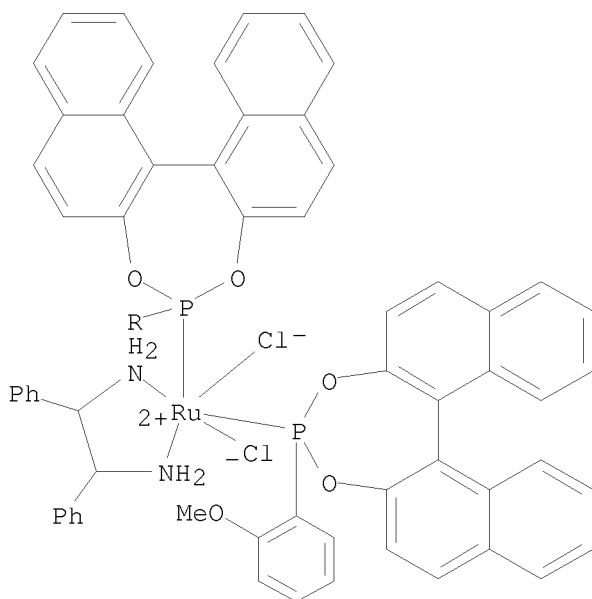


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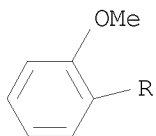


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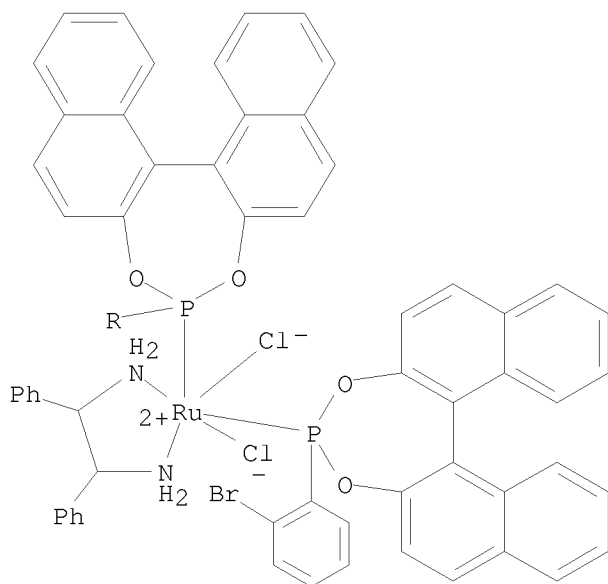


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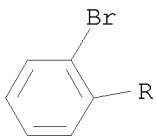


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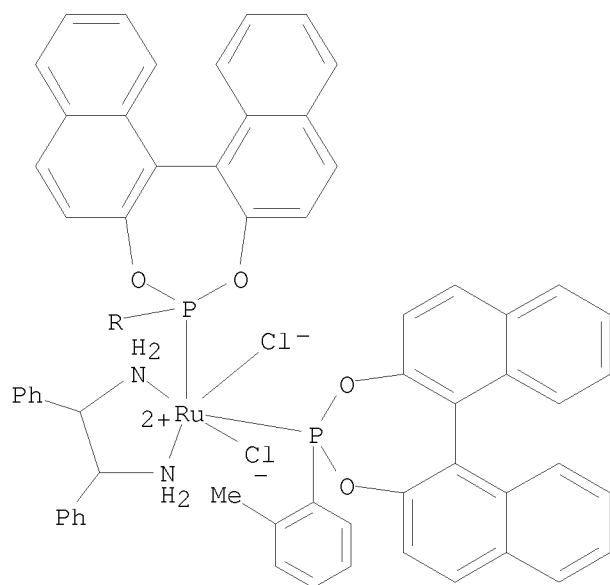


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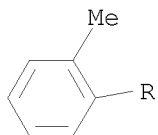


RN 798561-00-9 CAPLUS
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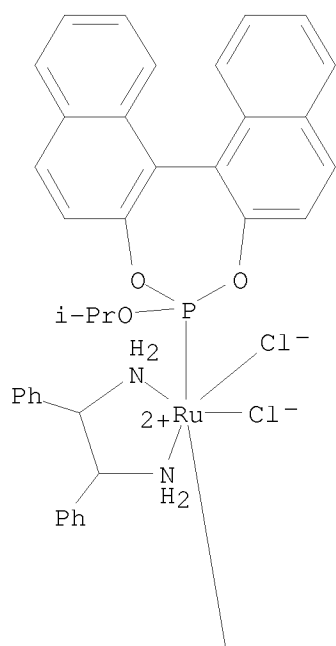


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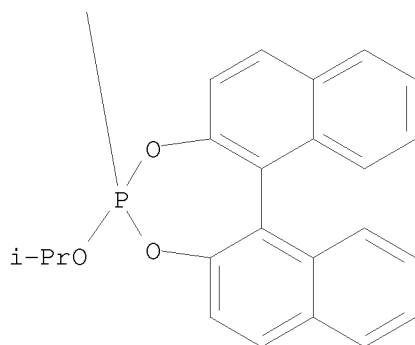


RN 799291-87-5 CAPLUS
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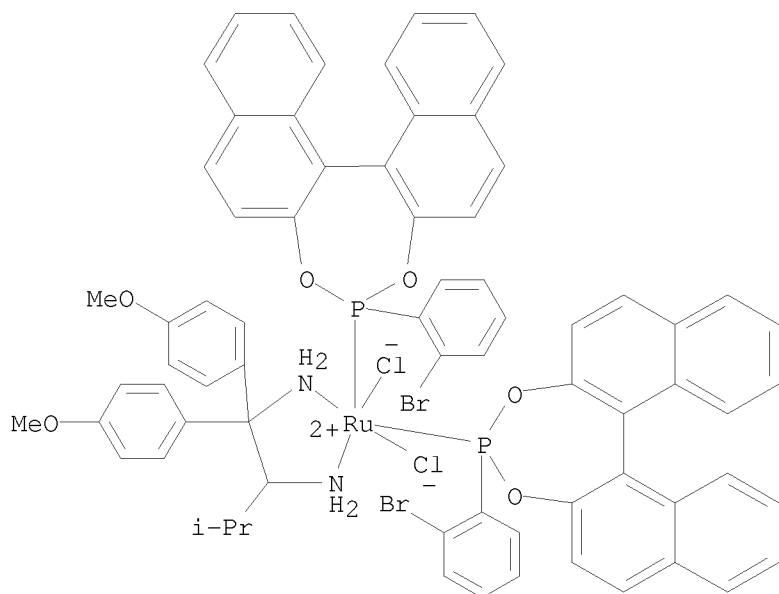
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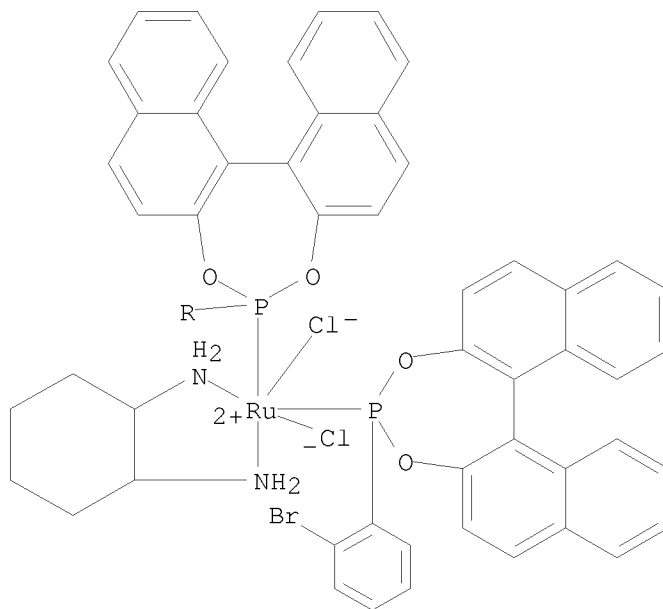


RN 867288-36-6 CAPLUS
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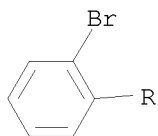


RN 867288-37-7 CAPLUS
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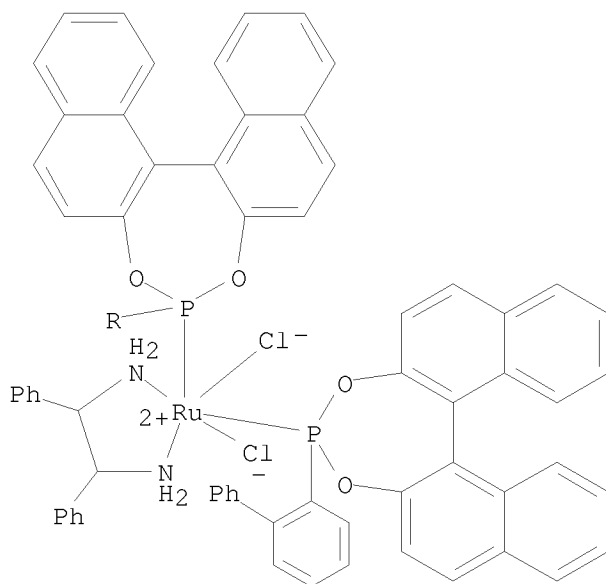


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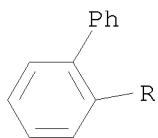


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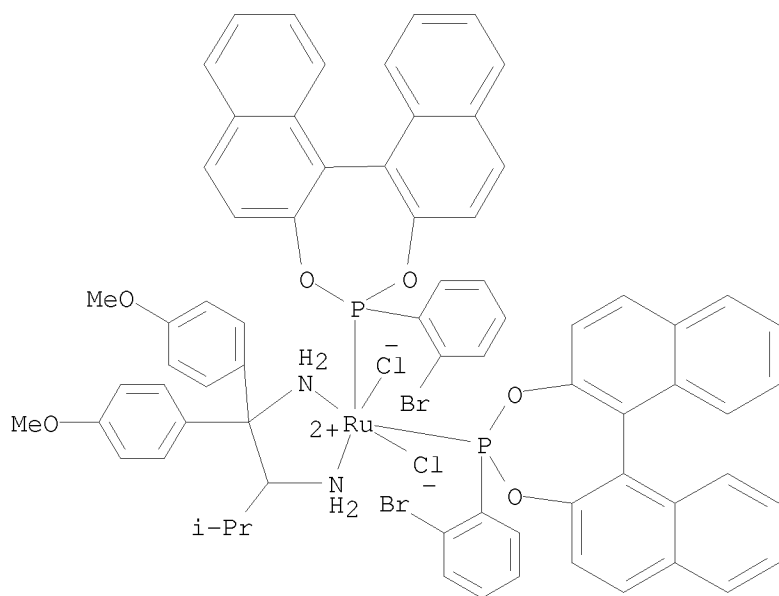
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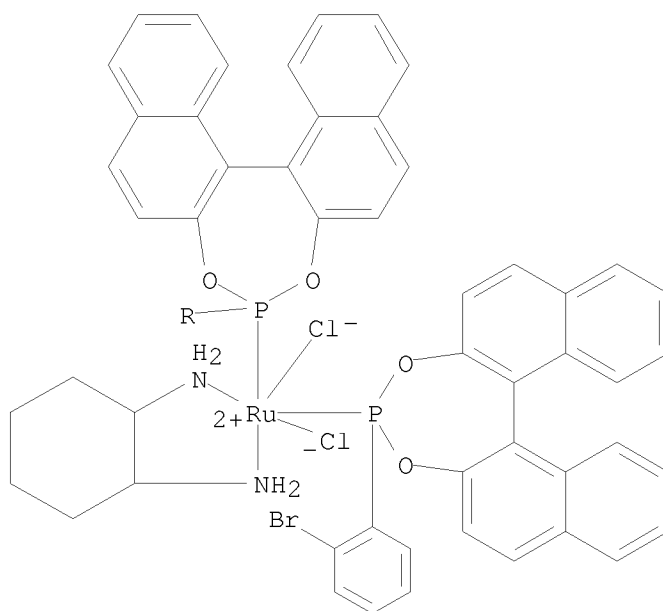


RN 867349-38-0 CAPLUS
 CN Ruthenium, [(2R)-1,1-bis(4-methoxyphenyl)-2-(1-methylethyl)-1,2-ethanediamine-κN,κN']bis[(11bS)-4-(2-bromophenyl)dinaphtho[2,1-d:1',2'-f][1,3,2]dioxaphosphepin-κP4]dichloro-, (OC-6-13)- (9CI) (CA INDEX NAME)

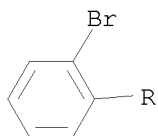


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PAGE 1-A

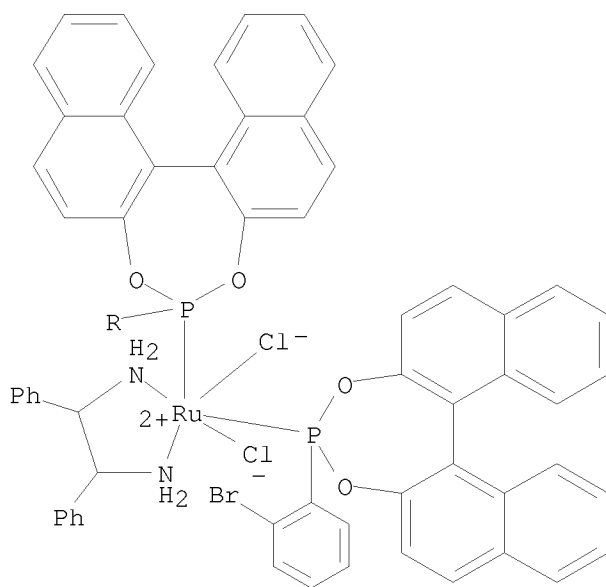


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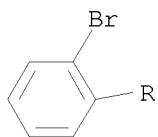


RN 867349-42-6 CAPLUS
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PAGE 1-A

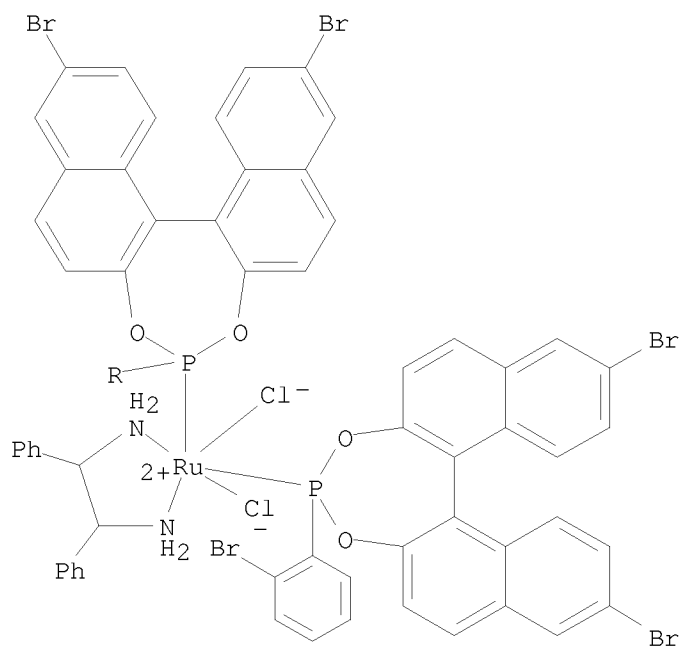


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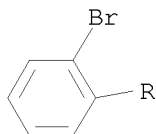


IT 867288-38-8P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of ruthenium(II) complexes of monodonor ligands as efficient catalysts for asym. ketone hydrogenation)
 RN 867288-38-8 CAPLUS
 CN Ruthenium, bis[(11bR)-9,14-dibromo-4-(2-bromophenyl)dinaphtho[2,1-d:1',2'-f][1,3,2]dioxaphosphepin-κP4]dichloro[(1R,2R)-1,2-diphenyl-1,2-ethanediamine-κN,κN']-, (OC-6-13)- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



REFERENCE COUNT: 78 THERE ARE 78 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L13 ANSWER 5 OF 6 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 2004:811014 CAPLUS
 DOCUMENT NUMBER: 142:6263
 TITLE: Asymmetric Hydrogenation of Ketones Using a Ruthenium(II) Catalyst Containing BINOL-Derived Monodonor Phosphorus-Donor Ligands
 AUTHOR(S): Xu, Yingjian; Alcock, Nat W.; Clarkson, Guy J.; Docherty, Gordon; Woodward, Gary; Wills, Martin
 CORPORATE SOURCE: Department of Chemistry, University of Warwick, Coventry, CV4 7AL, UK
 SOURCE: Organic Letters (2004), 6(22), 4105-4107
 CODEN: ORLEF7; ISSN: 1523-7060
 PUBLISHER: American Chemical Society
 DOCUMENT TYPE: Journal
 LANGUAGE: English

OTHER SOURCE(S): CASREACT 142:6263

AB A series of ruthenium(II) complexes containing BINOL-based monodonor phosphorus ligands have been prepared and applied to the asym. catalysis of the hydrogenation of aryl/alkyl ketones. The best ligands for this application are those which contain an aromatic groups with either a methoxide or bromide on the ortho position. Using these ligands, alcs. with ee's of up to 99% are formed.

IT 798560-99-3P

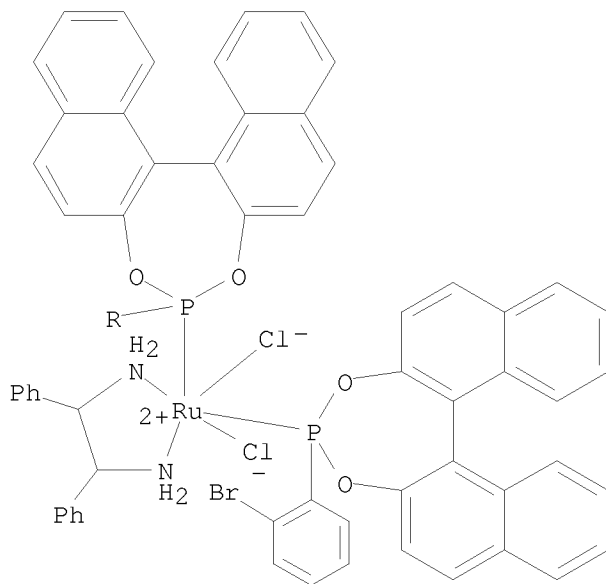
RL: CAT (Catalyst use); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)

(crystal structure; stereoselective preparation of arylethanols via chiral ruthenium complexes catalyzed asym. hydrogenation of aryl/alkyl ketones)

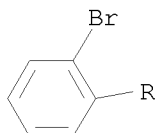
RN 798560-99-3 CAPLUS

CN Ruthenium, bis[(11bS)-4-(2-bromophenyl)dinaphtho[2,1-d:1',2'-f][1,3,2]dioxaphosphepin-κP4]dichloro[(1S,2S)-1,2-diphenyl-1,2-ethanediamine-κN1,κN2]-, (OC-6-13)- (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



IT 798560-94-8P 798560-95-9P 798560-97-1P

798561-00-9P 799291-87-5P

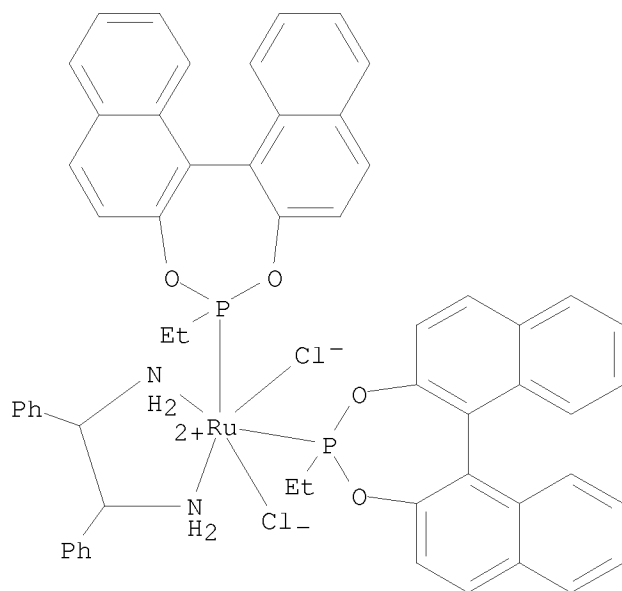
RL: SPN (Synthetic preparation); PREP (Preparation)

(preparation of chiral arylphosphorus ligands containing BINOL for ruthenium(II)

complexes as potential asym. hydrogenation catalysts)

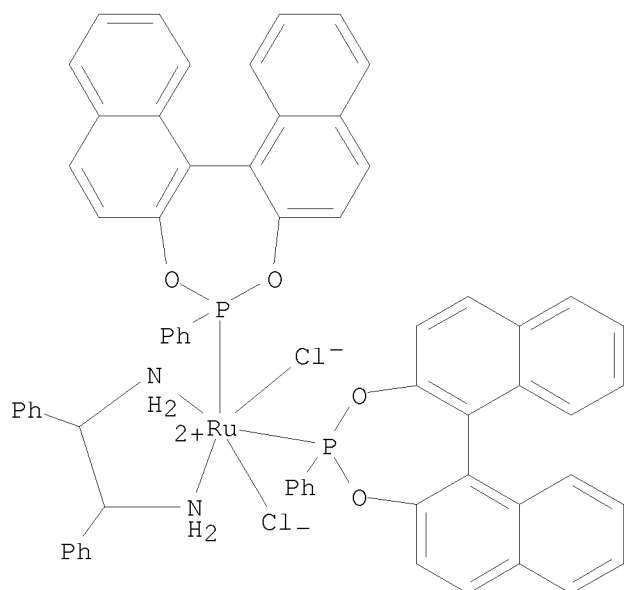
RN 798560-94-8 CAPLUS

CN Ruthenium, dichloro[(1S,2S)-1,2-diphenyl-1,2-ethanediamine- κ N, κ N']bis[(11bS)-4-ethyldinaphtho[2,1-d:1',2'-f][1,3,2]dioxaphosphepin- κ P4]-, (OC-6-13)- (9CI) (CA INDEX NAME)



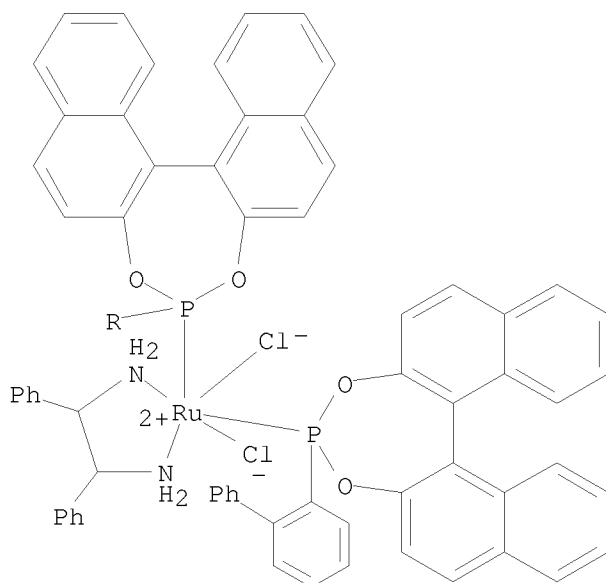
RN 798560-95-9 CAPLUS

CN Ruthenium, dichloro[(1S,2S)-1,2-diphenyl-1,2-ethanediamine- κ N, κ N']bis[(11bS)-4-phenyldinaphtho[2,1-d:1',2'-f][1,3,2]dioxaphosphepin- κ P4]-, (OC-6-13)- (9CI) (CA INDEX NAME)

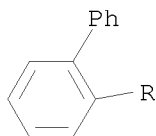


RN 798560-97-1 CAPLUS
 CN Ruthenium, bis[(11bR)-4-[1,1'-biphenyl]-2-ylidino]phosphino[2,1-d:1',2'-f][1,3,2]dioxaphosphepin-κP4]dichloro[(1R,2R)-1,2-diphenyl-1,2-ethanediamine-κN,κN']-, (OC-6-13)- (9CI) (CA INDEX NAME)

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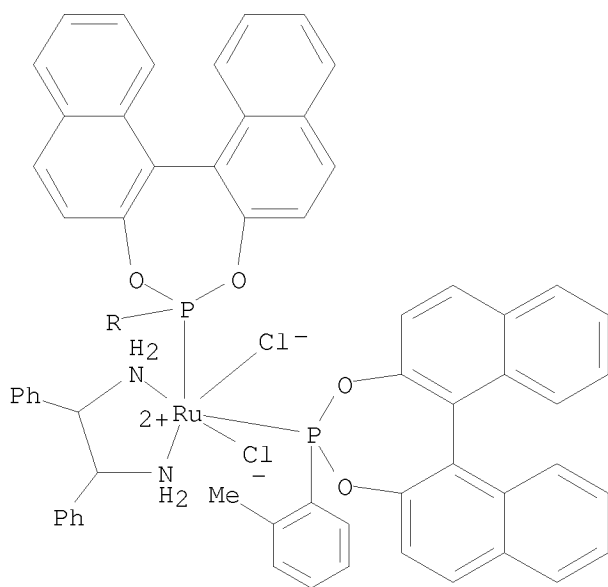


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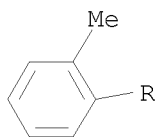


RN 798561-00-9 CAPLUS
 CN Ruthenium, dichloro[(1S,2S)-1,2-diphenyl-1,2-ethanediamine-
 κ N, κ N']bis[(11bS)-4-(2-methylphenyl)dinaphtho[2,1-d:1',2'-
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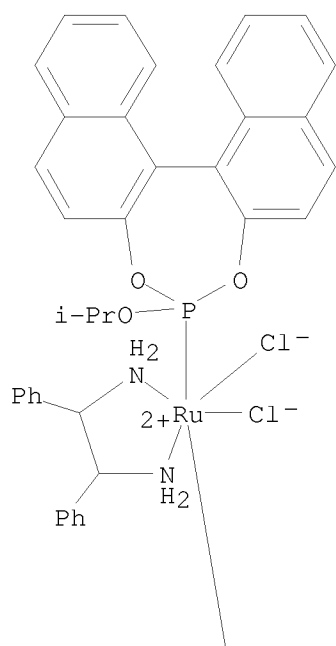


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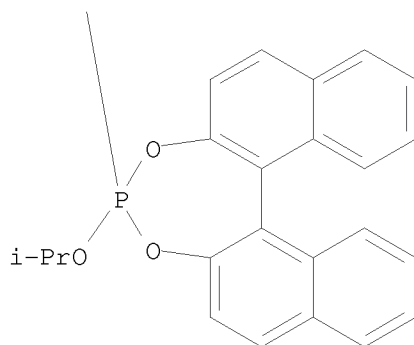


RN 799291-87-5 CAPLUS
 CN Ruthenium, dichloro[(1S,2S)-1,2-diphenyl-1,2-ethanediamine-
 κ N, κ N']bis[(11bS)-4-(1-methylethoxy)dinaphtho[2,1-d:1',2'-
 f][1,3,2]dioxaphosphepin- κ P4]-, (OC-6-13)- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A

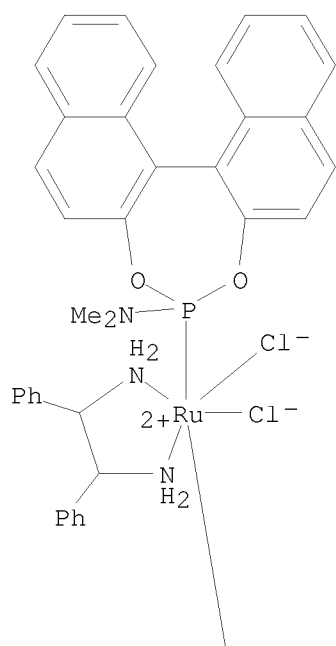


IT 798560-96-0P 798560-98-2P
 RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation);
 USES (Uses)
 (stereoselective preparation of arylethanols via chiral ruthenium complexes
 catalyzed asym. hydrogenation of aryl/alkyl ketones)

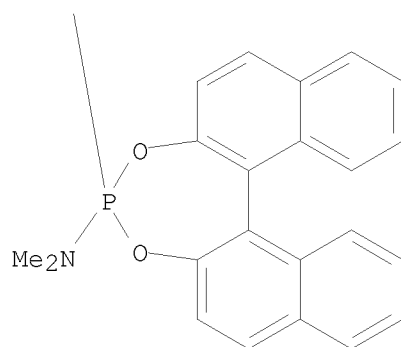
RN 798560-96-0 CAPLUS

CN Ruthenium, dichlorobis[(11bS)-N,N-dimethyldinaphtho[2,1-d:1',2'-
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 ethanediamine-κN,κN']-, (OC-6-13)- (9CI) (CA INDEX NAME)

PAGE 1-A

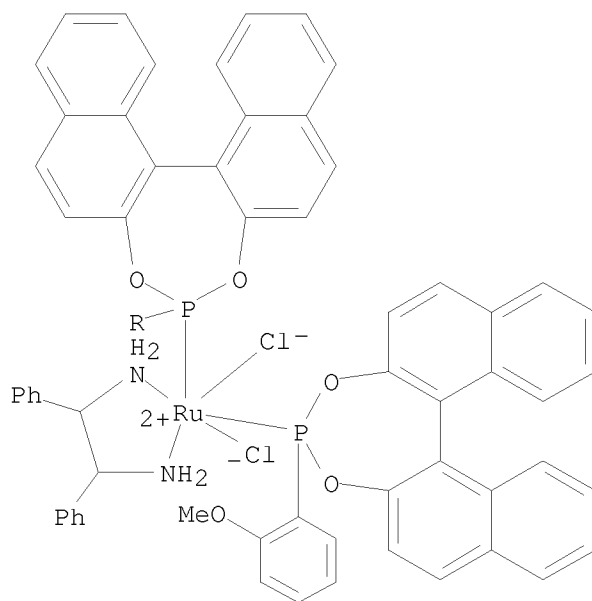


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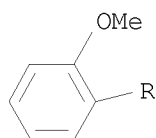


RN 798560-98-2 CAPLUS
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 f][1,3,2]dioxaphosphepin- κ P4]-, (OC-6-13)- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



REFERENCE COUNT: 50 THERE ARE 50 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L13 ANSWER 6 OF 6 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2004:181806 CAPLUS

DOCUMENT NUMBER: 140:217810

TITLE: Process for the preparation of phosphites and complexes with transition metals and their use as catalyst

INVENTOR(S): Scholz, Ulrich; Vogl, Erasmus; Gerlach, Arne; Hassfeld, Jorma; Meseguer, Benjamin

PATENT ASSIGNEE(S): Bayer Chemicals AG, Germany

SOURCE: Eur. Pat. Appl., 24 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

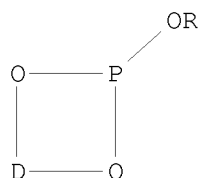
LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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EP 1394168	A1	20040303	EP 2003-18513	20030816
EP 1394168	B1	20080521		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
DE 10240803	A1	20040311	DE 2002-10240803	20020830
IN 2003MU00805	A	20050401	IN 2003-MU805	20030814
AT 396196	T	20080615	AT 2003-18513	20030816
US 20040116726	A1	20040617	US 2003-650012	20030826
US 6992201	B2	20060131		
JP 2004091488	A	20040325	JP 2003-303492	20030827
CN 1495189	A	20040512	CN 2003-132748	20030829
PRIORITY APPLN. INFO.:			DE 2002-10240803	A 20020830
OTHER SOURCE(S):	CASREACT 140:217810; MARPAT 140:217810			
GI				



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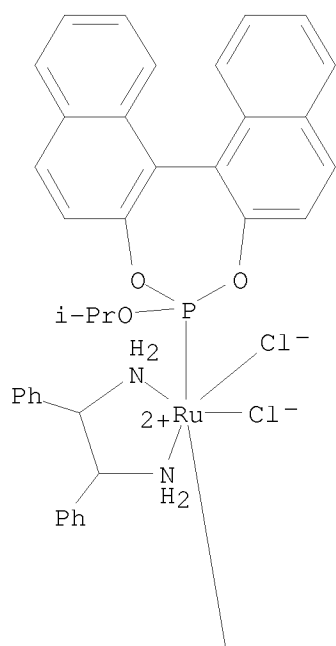
AB The preparation of phosphites, I (D = (un)substituted 1,1'-biphenyl-2,2'-diyl, 1,1'-binaphthyl-2,2'-diyl, etc.; R = C1-12 alkyl, C2-12 alkenyl, C1-12 haloalkyl, C5-15 arylalkyl, C4-14 aryl, etc.), and their transition metal complexes, useful as catalysts, is described. Thus, reaction of PCl₃ with 2-propanol gave isopropylidichloro phosphite which on treatment with (R)-1,1'-binaphthyl-2,2'-diol in the presence of Et₃N in THF gave 79% {(R)-1,1'-binaphthyl-2,2'-diyl}-isopropylphosphite. Reaction of Rh(COD)2OTf with {(R)-1,1'-binaphthyl-2,2'-diyl}-isopropylphosphite in CH₂Cl₂ gave the rhodium complex which was useful as catalyst.

IT 663940-90-7P 663940-91-8P
 RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
 (preparation of phosphites and complexes with transition metals and their use as catalyst)

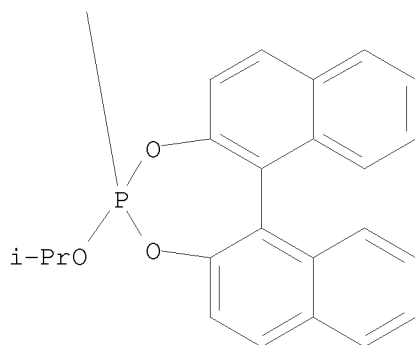
RN 663940-90-7 CAPLUS

CN Ruthenium, dichloro(1,2-diphenyl-1,2-ethanediamine-κN,κN')bis[4-(1-methylethoxy)dinaphtho[2,1-d:1',2'-f][1,3,2]dioxaphosphin-κP4]- (9CI) (CA INDEX NAME)

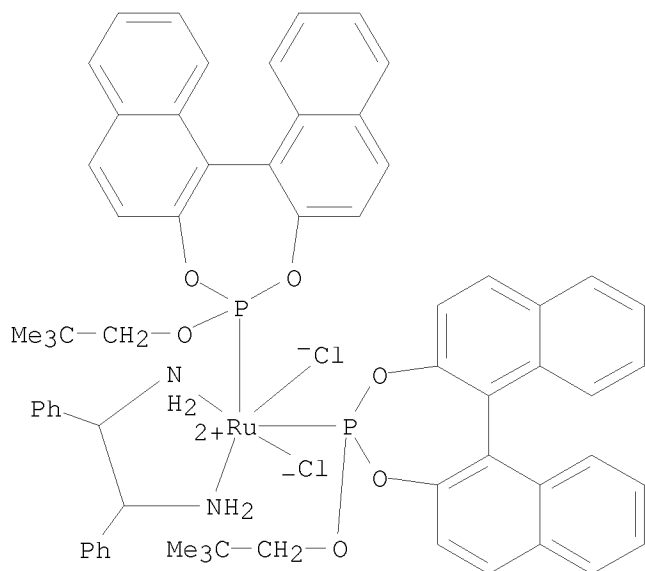
PAGE 1-A



PAGE 2-A



RN 663940-91-8 CAPLUS
 CN Ruthenium, dichlorobis[4-(2,2-dimethylpropoxy)dinaphtho[2,1-d:1',2'-f][1,3,2]dioxaphosphepin-κP4](1,2-diphenyl-1,2-ethanediamine-κN,κN')- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

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COST IN U.S. DOLLARS

SINCE FILE	TOTAL
ENTRY	SESSION
34.34	1000.24

FULL ESTIMATED COST

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)

SINCE FILE	TOTAL
ENTRY	SESSION
-4.92	-63.96

CA SUBSCRIBER PRICE

SESSION WILL BE HELD FOR 120 MINUTES

STN INTERNATIONAL SESSION SUSPENDED AT 20:15:42 ON 25 JAN 2009

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Welcome to STN International! Enter x:x

LOGINID:SSPTAJRK1626

PASSWORD:

***** RECONNECTED TO STN INTERNATIONAL *****
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 COPYRIGHT (C) 2009 AMERICAN CHEMICAL SOCIETY (ACS)

COST IN U.S. DOLLARS

SINCE FILE	TOTAL
ENTRY	SESSION
34.34	1000.24

FULL ESTIMATED COST

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DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	-4.92	-63.96

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COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	34.34	1000.24

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	-4.92	-63.96

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STRUCTURE FILE UPDATES: 23 JAN 2009 HIGHEST RN 1095705-07-9
 DICTIONARY FILE UPDATES: 23 JAN 2009 HIGHEST RN 1095705-07-9

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TSCA INFORMATION NOW CURRENT THROUGH July 5, 2008.

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 experimental property data in the original document. For information
 on property searching in REGISTRY, refer to:

<http://www.cas.org/support/stngen/stndoc/properties.html>

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 1-2 2-3 3-4 4-5
 exact/norm bonds :
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10564902.trn

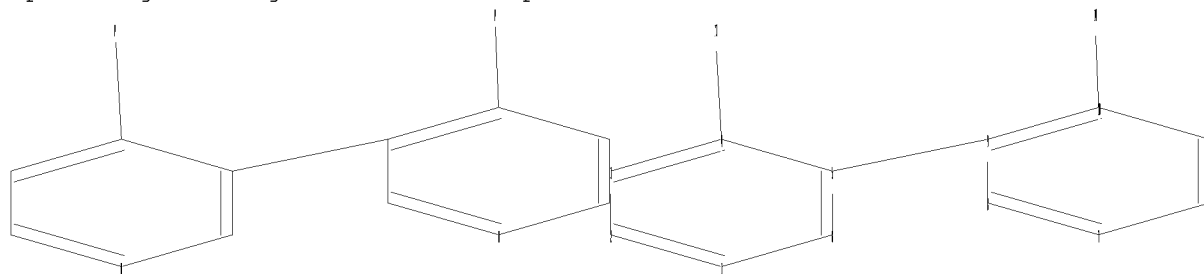
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Match level :
1:Atom 2:Atom 3:Atom 4:Atom 5:Atom

L14 STRUCTURE UPLOADED

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ring nodes :
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chain bonds :
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exact bonds :
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normalized bonds :
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Match level :
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11:Atom 12:Atom 13:CLASS 14:CLASS

L15 STRUCTURE UPLOADED

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SAMPLE SCREEN SEARCH COMPLETED - 0 TO ITERATE

100.0% PROCESSED 0 ITERATIONS 0 ANSWERS
SEARCH TIME: 00.00.01

10564902.trn

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PROJECTED ANSWERS:       0 TO      0

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100.0% PROCESSED          0 ITERATIONS          0 ANSWERS
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SEARCH TIME: 00.00.01

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FULL FILE PROJECTIONS:  ONLINE  **COMPLETE**
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PROJECTED ITERATIONS:    1 TO     80
PROJECTED ANSWERS:       1 TO     80

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L18 1 SEA SSS SAM L15

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100.0% PROCESSED         41 ITERATIONS         33 ANSWERS
SEARCH TIME: 00.00.01

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L19 33 SEA SSS FUL L15

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INCOMPLETE SEARCH (SYSTEM LIMIT EXCEEDED)
SEARCH TIME: 00.00.01

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L20 50 SEA SSS SAM L14

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CA SUBSCRIBER PRICE	0.00	-63.96

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FILE COVERS 1907 - 25 Jan 2009 VOL 150 ISS 5
 FILE LAST UPDATED: 23 Jan 2009 (20090123/ED)

Caplus now includes complete International Patent Classification (IPC) reclassification data for the third quarter of 2008.

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<http://www.cas.org/legal/infopolicy.html>

This file contains CAS Registry Numbers for easy and accurate substance identification.

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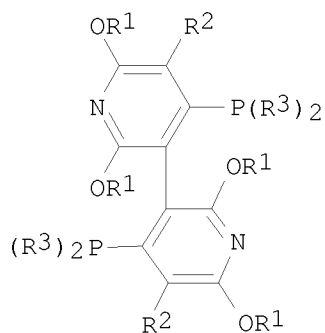
L21 65 L19

=> d ibib abs hitstr 65

L21 ANSWER 65 OF 65 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1999:205358 CAPLUS
 DOCUMENT NUMBER: 130:209822
 TITLE: Chiral pyridylphosphines and their application in asymmetric catalytic hydrogenation of 2-arylpropenoic acids
 INVENTOR(S): Chan, Albert Sun-Chi; Pai, Cheng-Chao
 PATENT ASSIGNEE(S): The Hong Kong Polytechnic University, Hong Kong
 SOURCE: U.S., 7 pp.
 CODEN: USXXAM
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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US 5886182	A	19990323	US 1997-988376	19971210
GB 2332201	A	19990616	GB 1998-27259	19981210
GB 2332201	B	20021023		
HK 1021188	A1	20030711	HK 1999-105623	19991202
PRIORITY APPLN. INFO.:			US 1997-988376	A 19971210
OTHER SOURCE(S):		CASREACT 130:209822; MARPAT 130:209822		
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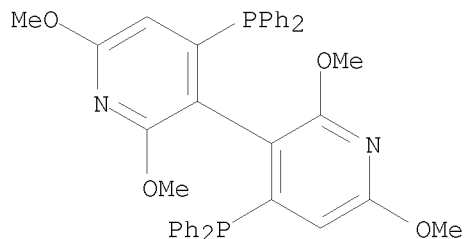
I

AB Preparation of novel, optically active phosphorous compds. I (R1 = H, C1-6 straight or branched-chain alkyl; R2 = H, halo, lower C1-6 alkyl, C1-6 lower alkoxy, hydroxy, chiral hydroxyalkyl, and amino, vinyl, allyl, etc.; R3 = Ph, aryl, cyclohexyl, substituted and unsubstituted cycloalkyl, heteroarom. rings), are described. I are useful in the preparation of ruthenium complexes which are effective catalysts for the asym. hydrogenation of 2-arylpropenoic acids leading to high valued 2-arylpropionic acids.

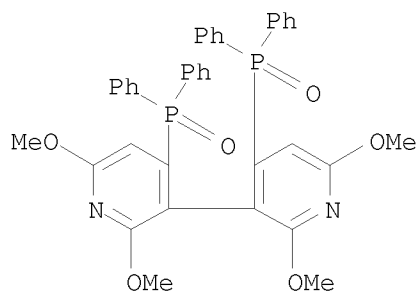
IT 221012-82-4P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (preparation and reaction with ruthenium complex)

RN 221012-82-4 CAPLUS

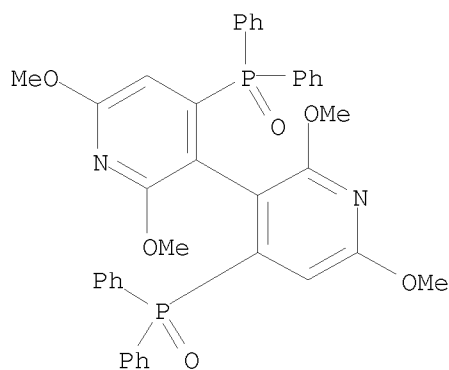
CN 3,3'-Bipyridine, 4,4'-bis(diphenylphosphino)-2,2',6,6'-tetramethoxy-, (3R)- (CA INDEX NAME)



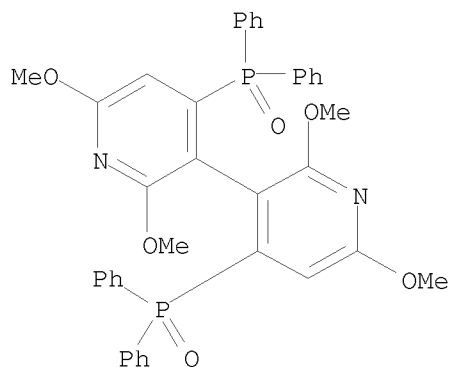
IT 220998-37-8P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
 (Reactant or reagent)
 (preparation and resolution of)
 RN 220998-37-8 CAPLUS
 CN 3,3'-Bipyridine, 4,4'-bis(diphenylphosphinyl)-2,2',6,6'-tetramethoxy- (CA
 INDEX NAME)



IT 221012-80-2P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of)
 RN 221012-80-2 CAPLUS
 CN 3,3'-Bipyridine, 4,4'-bis(diphenylphosphinyl)-2,2',6,6'-tetramethoxy-,
 (3S)- (9CI) (CA INDEX NAME)



IT 221012-83-5
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reduction of)
 RN 221012-83-5 CAPLUS
 CN 3,3'-Bipyridine, 4,4'-bis(diphenylphosphinyl)-2,2',6,6'-tetramethoxy-,
 (3R)- (CA INDEX NAME)



REFERENCE COUNT: 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> log h

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	6.14	1377.66
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	-0.82	-64.78

SESSION WILL BE HELD FOR 120 MINUTES
STN INTERNATIONAL SESSION SUSPENDED AT 20:23:18 ON 25 JAN 2009

Connecting via Winsock to STN

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LOGINID:SSPTAJRK1626

PASSWORD:

TERMINAL (ENTER 1, 2, 3, OR ?):2

* * * * * Welcome to STN International * * * * *

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NEWS	2	NOV 21	CAS patent coverage to include exemplified prophetic substances identified in English-, French-, German-, and Japanese-language basic patents from 2004-present
NEWS	3	NOV 26	MARPAT enhanced with FSORT command
NEWS	4	NOV 26	CHEMSAFE now available on STN Easy
NEWS	5	NOV 26	Two new SET commands increase convenience of STN searching
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NEWS	7	DEC 12	GBFULL now offers single source for full-text

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coverage of complete UK patent families
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 will change in 2009 for STN-Columbus and STN-Tokyo
 NEWS 10 JAN 07 WPIDS, WPINDEX, and WPIX enhanced Japanese Patent
 Classification Data

NEWS EXPRESS JUNE 27 08 CURRENT WINDOWS VERSION IS V8.3,
 AND CURRENT DISCOVER FILE IS DATED 23 JUNE 2008.

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 NEWS LOGIN Welcome Banner and News Items
 NEWS IPC8 For general information regarding STN implementation of IPC 8

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* * * * * STN Columbus * * * * *

FILE 'HOME' ENTERED AT 10:58:41 ON 26 JAN 2009

=> file reg
 COST IN U.S. DOLLARS SINCE FILE TOTAL
 ENTRY SESSION
 FULL ESTIMATED COST 0.22 0.22

FILE 'REGISTRY' ENTERED AT 10:58:49 ON 26 JAN 2009
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STRUCTURE FILE UPDATES: 25 JAN 2009 HIGHEST RN 1095751-06-6
 DICTIONARY FILE UPDATES: 25 JAN 2009 HIGHEST RN 1095751-06-6

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TSCA INFORMATION NOW CURRENT THROUGH July 5, 2008.

Please note that search-term pricing does apply when
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REGISTRY includes numerically searchable data for experimental and
 predicted properties as well as tags indicating availability of
 experimental property data in the original document. For information
 on property searching in REGISTRY, refer to:

<http://www.cas.org/support/stngen/stndoc/properties.html>

=>

Uploading C:\Program Files\Stnexp\Queries\10564902\Struc 7.str

chain nodes :
1 2 3 4 5
chain bonds :
1-2 2-3 3-4 4-5
exact/norm bonds :
1-2 2-3 3-4 4-5

Match level :
1:Atom 2:Atom 3:Atom 4:Atom 5:Atom

L1 STRUCTURE UPLOADED

=> d

L1 HAS NO ANSWERS

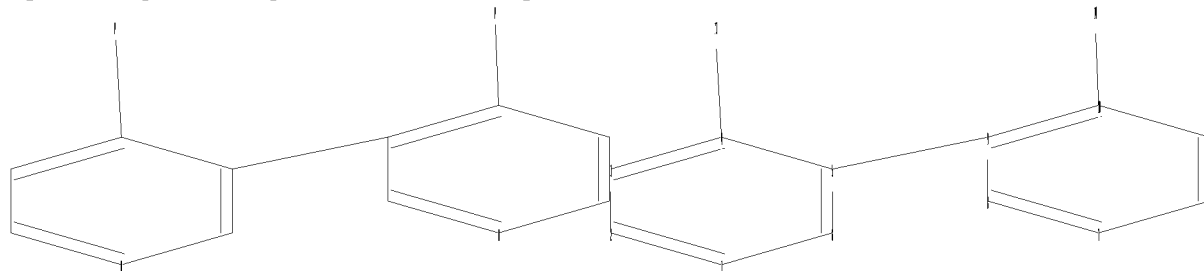
L1 STR

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

Structure attributes must be viewed using STN Express query preparation.

=>

Uploading C:\Program Files\Stnexp\Queries\10564902\Struc 6.str



chain nodes :
13 14
ring nodes :
1 2 3 4 5 6 7 8 9 10 11 12
chain bonds :
4-13 5-9 10-14
ring bonds :

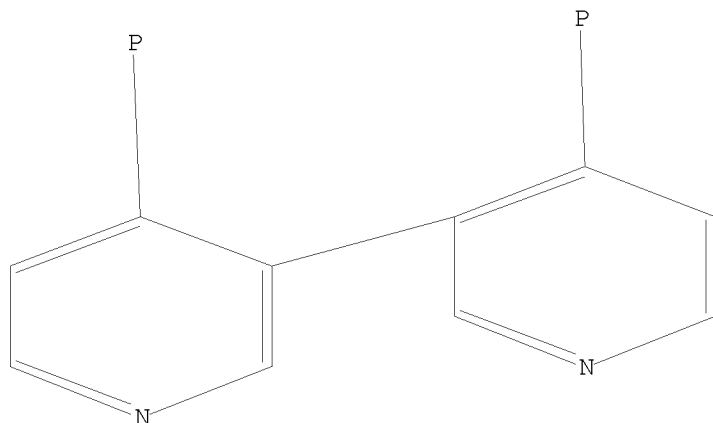
10564902.trn

1-2 1-6 2-3 3-4 4-5 5-6 7-8 7-12 8-9 9-10 10-11 11-12
 exact bonds :
 4-13 5-9 10-14
 normalized bonds :
 1-2 1-6 2-3 3-4 4-5 5-6 7-8 7-12 8-9 9-10 10-11 11-12

Match level :
 1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 10:Atom
 11:Atom 12:Atom 13:CLASS 14:CLASS

L2 STRUCTURE UPLOADED

=> d
 L2 HAS NO ANSWERS
 L2 STR



Structure attributes must be viewed using STN Express query preparation.

=> l1 and l2
 SAMPLE SEARCH INITIATED 10:59:14 FILE 'REGISTRY'
 SAMPLE SCREEN SEARCH COMPLETED - 1 TO ITERATE

100.0% PROCESSED 1 ITERATIONS 0 ANSWERS
 SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE **COMPLETE**
 BATCH **COMPLETE**
 PROJECTED ITERATIONS: 1 TO 80
 PROJECTED ANSWERS: 0 TO 0

L3 0 SEA SSS SAM L1 AND L2

=> l1 and l2 full
 FULL SEARCH INITIATED 10:59:19 FILE 'REGISTRY'
 FULL SCREEN SEARCH COMPLETED - 41 TO ITERATE

10564902.trn

100.0% PROCESSED 41 ITERATIONS 0 ANSWERS
SEARCH TIME: 00.00.01

L4 0 SEA SSS FUL L1 AND L2

=> log y

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

185.88

186.10

STN INTERNATIONAL LOGOFF AT 10:59:23 ON 26 JAN 2009